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Assistant Commissioner for Patents
Washington, D.C. 20231

**APPLICATION TRANSMITTAL LETTER WHERE BENEFIT
OF A PRIOR U.S. APPLICATION IS CLAIMED**

Transmitted herewith for filing is the patent application of:

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For: METHOD AND SYSTEM FOR PROCESSING SUPPLEMENTARY PRODUCT SALES
AT A POINT-OF-SALE TERMINAL

Type of Application:

This application is a:

<i>check one:</i>	
	Divisional Application
	Continuation Application
X	Continuation-in-part Application

of pending parent application Serial No. 08/822,709, filed on March 21, 1997.

- ☐ I hereby verify that the attached papers for this divisional or continuation application are a true copy of the above-identified parent application as filed, including the oath or declaration originally filed and that no amendments referred to in the oath or declaration filed to complete the parent application introduced new matter therein.

Papers Enclosed:

Enclosed are:

X	92 page Application, including 56 pages of claims and 1 page of Abstract
X	17 sheets of formal drawing(s)
X	Express Mail Certificate
X	An Assignment of the invention with recordation cover sheet
X	Verified Statement Claiming Small Entity Status
	Information Disclosure Statement, PTO-1449 and cited references
X	Combined Declaration and Power of Attorney
	Preliminary Amendment

Fee Calculation:

The filing fee has been calculated as shown below:

(Col. 1)

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FOR:	NO. FILED	NO. EXTRA
BASIC FEE		
TOTAL CLAIMS	184 - 20 =	164
INDEPENDENT CLAIMS	18 - 3 =	15
<div> <div></div> <div>MULTIPLE DEPENDENT CLAIM PRESENTED</div> </div>		

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X \$11 =	\$1804
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+130 =	\$0
TOTAL	\$2789

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RATE	FEE
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Oath or Declaration:

- ☒ A Combined Declaration and Power of Attorney is included since this application is a continuation-in-part application which discloses and claims new matter.
- ☐ A Combined Declaration and Power of Attorney is not included since this application is a divisional or a continuation application which does not disclose or claim new matter.

Small Entity Status:

- ☒ A Verified Statement of Small Entity Status is enclosed herewith.
- ☐ A Verified Statement of Small Entity Status was filed in the parent application and status as a small entity is still proper and desired. A copy is enclosed herewith.
- ☐ Applicant is a large entity.

Inventorship:

- ☒ With respect to the inventorship of the copending parent application, from which this application claims benefit under 35 U.S.C. §120, the inventor(s) in this application is (are) less than those named in the copending parent application and the following inventor(s) should be deleted from this application:

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METHOD AND SYSTEM FOR PROCESSING
SUPPLEMENTARY PRODUCT SALES
AT A POINT-OF-SALE TERMINAL

5 The present application is a continuation-in-part
application of co-pending Patent Application No. 08/822,709,
entitled SYSTEM AND METHOD FOR PERFORMING LOTTERY TICKET
TRANSACTIONS UTILIZING POINT-OF-SALE TERMINALS, filed on March
21, 1997, incorporated herein by reference.

10

FIELD OF THE INVENTION

 The present invention relates to point-of-sale
terminals, and, more specifically, to methods and systems for
processing product sales at point-of-sale terminals.

15

BACKGROUND OF THE INVENTION

 Most stores that are visited by customers have one or
more point-of-sale ("POS") terminals, such as cash registers.

Store cashiers use POS terminals for calculating the total price
20 of a purchase (one or more products) and the amount of change
due to a customer. Some POS terminals furthermore track
purchases made and adjust a database of store inventory
accordingly.

 The amount of change due is the difference between the
25 purchase price and the amount tendered by the customer.

Customers typically tender whole number cash amounts in the form of bills of paper money, while purchase prices are most often non-whole number amounts. Accordingly, the amount of change due to a customer at a POS terminal typically includes one or more
5 coins, which the POS terminal or cashier dispenses to the customer.

Receiving and carrying change, especially coins, is an annoyance to many customers. Consequently, customers often are forced to tender non-whole number cash amounts in order to
10 dispose of their unwanted coins and/or reduce the coins that would otherwise be given to them as change for their purchase. Coins and bills that are tendered by the customer are collected by the cashier at the POS terminal.

Both dispensing coins to and collecting coins from a
15 customer increases the amount of time a cashier spends processing a purchase, and therefore increases the amount of time that customers wait in line at a POS terminal. Accordingly, businesses must pay wages for time spent handling coins, and customers must experience delays as coins are
20 exchanged between cashiers and customers.

In addition, it is possible that the cashier will make a mathematical error and dispense the wrong amount of change. Customers often anticipate such an error and count their change to assure that they received the correct amount. Such customers

typically count their change before leaving the POS terminal,
further delaying other customers.

Businesses incur costs associated with counting,
rolling, banking and otherwise handling coins. By some
5 estimates, businesses expend hundreds of thousands of hours and
hundreds of millions of dollars each year just to handle coins.

In summary, the exchange of change, especially coins,
between customers and POS terminals is costly, time-consuming
and undesirable. Unfortunately, conventional POS terminals
10 merely calculate purchase prices and amounts of change due, and
cannot reduce the amount of change due nor the exchange of
coins.

Accordingly, it would be advantageous to provide a
system and method that reduced the amount of change due, and
15 therefore reduced the coins exchanged between customers and
cashiers at a POS terminal.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide
20 methods and systems for offering selected products in exchange
for the amount of change due at POS terminals.

Generally, according to one aspect of the present
invention, a POS terminal determines an upsell to exchange for
the change due to a customer in connection with his purchase.

The point-of-sale terminal preferably maintains a database of at least one upsell price and a corresponding upsell to offer a customer in exchange for the change due to him. The upsells and upsell prices are established so that upsells are profitably
5 exchanged for the change due, thus providing the business with profit and the customer with value if the upsell is accepted.

When a customer brings a purchase to a POS terminal, the POS terminal generates the purchase price and sets a "required payment amount" to be equal to the purchase price.
10 The required payment amount indicates the amount the customer is expected to pay. The POS terminal then generates a rounded price, preferably by rounding up the purchase price to a whole number, and calculates therefrom a round-up amount equal to the difference between the purchase price and the rounded price.
15 Accordingly, the round-up amount indicates the coins due as change.

By comparing the calculated round-up amount with at least one of the upsell prices in the database, the POS terminal may determine whether the round-up amount corresponds to any of
20 the upsell prices. If so, the POS terminal identifies the upsell corresponding to this upsell price, and outputs signals indicative of the identified upsell. The output signals are preferably displayed text or graphics that explain to the

customer and/or the cashier that the upsell may be purchased for the specified amount of change due.

If the customer accepts the upsell, the cashier so indicates by pressing a selection button on the POS terminal.

5 The required payment amount for the customer to pay is then set equal to the rounded price, rather than the purchase price. Thus, the customer receives the upsell in exchange for the coins due to him, and the coins need not be exchanged between the customer and the POS terminal.

10

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1a is a schematic illustration of a POS terminal provided in accordance with the present invention.

FIG. 1b is a schematic illustration of another
15 embodiment of the POS terminal of Fig. 1a.

FIG. 2 is a flow chart illustrating a method of the present invention for determining an upsell at a POS terminal.

FIG. 3 is an exemplary illustration of a storage area of the POS terminal of FIG. 1a.

20 FIG. 4 is a schematic illustration of an upsell database of the POS terminal of FIG. 1a.

FIG. 5 is a schematic illustration of a customer database of the POS terminal of FIG. 1a.

FIG. 6 is a schematic illustration of an inventory price database of the POS terminal of FIG. 1a.

FIG. 7 is a schematic illustration of an offered price database of the POS terminal of FIG. 1a.

5 FIG. 8 is a flow chart illustrating a method of the present invention for evaluating a counter-offer for an upsell at a POS terminal.

FIG. 9 is a schematic illustration of an identifier database of the POS terminal of FIG. 1a.

10 FIG. 10 is a schematic illustration of POS terminal connected to a lottery data processing system.

FIG. 11 is a schematic illustration of another embodiment of the customer database of the POS terminal of FIG. 1a.

15 FIG. 12a is a flow chart illustrating a method of the present invention for storing customer preferences.

FIG. 12b is a flow chart illustrating a method of the present invention for storing customer preferences.

20 FIG. 13 is a flow chart illustrating a method of the present invention for applying previously-selected customer preferences.

FIG. 14 is a flow chart illustrating a method of the present invention for receiving a donated upsell.

FIG. 15 is a flow chart illustrating another method of the present invention for determining an upsell at a POS terminal.

5 DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

As used herein, an "upsell" is a product (good or service) which is offered along with a purchase and has a value approximately equal to a predetermined upsell price. Types of upsells which are described in detail herein include (i) an
10 upgrade from a first product to a second product different from the first product, (ii) an additional product, (iii) a voucher which is redeemable for a product or a discount thereon, and (iv) an entry in a sweepstakes, contest, lottery or other game. Various other types of upsells may be used without departing
15 from the scope and spirit of the present invention.

By offering an upsell in exchange for the customer's change, an average of approximately fifty cents additional revenue is collected per upsell, and the number of coins exchanged is reduced or eliminated. The reduction or
20 elimination of change dispensing and collecting greatly reduces the time a customer spends at a POS terminal. In some cases, it may even be possible to reduce the number of cashiers, if any, who operate POS terminals. In addition, customers may recognize a greater value from the transaction while reducing or

eliminating the need to carry additional change after a purchase.

Further, the present invention allows businesses to more effectively sell aged or perishable products by offering
5 such products in exchange for change due. Such products, such as aging magazines, audio tapes, compact discs, flowers and various perishables can be sold, thereby generating additional revenue and reducing the costs of otherwise disposing of the products. Providing the customer with aged products effectively
10 allows businesses to "pre-qualify" customers to receive discounts on products.

Referring to Fig. 1a, a POS terminal 10 includes a POS processor 12 connected to each of an input device 14, a printer 16 and a display device 18. The POS processor 12 comprises at
15 least one microprocessor 20, such as an Intel 80386 microprocessor, which is connected to a storage device 22, such as a RAM, floppy disk, hard disk or combination thereof.

The microprocessor 20 and the storage device 22 may each be (i) located entirely within a cash register, vending
20 machine or similar enclosure; (ii) connected thereto by a remote communication link, such as a serial port cable, telephone line or radio frequency transceiver; or (iii) a combination thereof. For example, the POS processor 12 may comprise one or more cash registers connected to a remote server computer for maintaining

databases, or a vending machine connected to a local computer. Many types of conventional cash registers and other types of POS terminals may be used to implement the present invention in light of the present disclosure. Such terminals may only
5 require software upgrades, which are typically performed without undue effort.

Fig. 1b illustrates another embodiment of the POS terminal 10 in which a first device 32 communicates with a second device 34 via a remote communication link 36. The first
10 device 32, which may be a cash register, comprises the input device 14, the display device 18 and a microprocessor 37 which performs some of the functions of the microprocessor 20 of Fig. 1a. The second device 34 may be, for example, a processing system operated by an electronic marketing service or credit
15 card clearinghouse. The second device 34 comprises the storage device 22, the printer 16 and a microprocessor 38 which performs some of the functions of the microprocessor 20 of Fig. 1a.

Referring again to Fig. 1a, the input device 14 is preferably a keypad for transmitting input signals, such as
20 signals indicative of a purchase, to the microprocessor 20. The printer 16 is for registering indicia on a portion of a roll of paper or other material, thereby printing receipts, coupons and vouchers as commanded by the microprocessor 20. The display device 18 is preferably a video monitor for displaying at least

alphanumeric characters to the customer and/or cashier. Many types of input devices, printers and display devices are known to those skilled in the art, and thus need not be described in detail herein.

5 The storage device 22 stores a POS program 24 for controlling the microprocessor 20 in accordance with the present invention, and particularly in accordance with the processes described in detail hereinafter. The POS program 24 also includes necessary program elements, such as "device drivers" 10 for interfacing with each of the input device 14, printer 16 and display device 18. Appropriate device drivers and other necessary program elements are known to those skilled in the art, and need not be described in detail herein.

 The storage device 22 also stores a required payment 15 amount 26, which is an amount of money expected to be paid in return for products provided to the customer. From the required payment amount 26, the microprocessor 20 may determine, for example, the change due and the total amount of money that should have been collected by the POS terminal 10 at the end of 20 a day. Those skilled in the art will note that the required payment amount may comprise a single stored value or a plurality of values which each correspond to an amount of money expected to be paid for one or more products.

The storage device 22 furthermore stores an inventory price database 28, which includes products and corresponding product prices. The inventory price database 28 enables the microprocessor 20 to calculate a total purchase price of one or more products, and in turn store the total purchase price in the required payment amount 26.

An upsell database 30 stored in the storage device 22 includes upsells and corresponding upsell prices. An upsell price as used herein is a price, set of prices or range of prices at which it is desirable to sell the corresponding upsell. The upsell price is typically related to the cost of the upsell to the business. For example, if the cost to a restaurant is 20¢ for a small soda, then the upsell price of one additional small soda is a range greater than 20¢, such as the range from 20¢ to 30¢. As another example, if the cost to the restaurant is 22¢ for a large soda, then the cost of an upsell from a small soda to a large soda for the restaurant is the incremental cost $22¢ - 20¢ = 2¢$. Accordingly, the upsell price may possibly be a range having a lower bound of 2¢.

In addition, it is desirable that the upsell price has an upper bound that is less than a predetermined amount. For example, an upsell price should not exceed the price of a product offered as an upsell. Using the example given above, the upsell price for an upgrade from a small soda to a large

soda is a range with a lower bound of 2¢. An upper bound for this upsell price should not exceed the cost of a large soda, for example, 90¢. Otherwise, the customer would pay more than the price he would have paid if he had included a large soda in his purchase. Proposing such a transaction to the customer, for example, 95¢ in exchange for a 90¢ large soda, is likely to be ineffective, as well as insulting to the customer.

In general, the price of a product to a customer is different from the cost of the product to the business that offers the product. Therefore, the upsell prices in the upsell database 30 cannot be ascertained from only the product prices in the inventory price database 28, but must be calculated so as to yield a profit. For example, the inventory price database 28 may indicate that the price of a small soda is 55¢ and the price of a large soda is 90¢. From these two prices alone, it is impossible to determine that the cost to a restaurant is 20¢ for a small soda and 22¢ for a large soda, and thus that the cost of such an upsell from small to large soda is 2¢. Accordingly, it is impossible to determine, from the inventory price database 28 alone, that it would be profitable for the restaurant to profitably provide the upsell for relatively small upsell prices, such as 5¢ or 10¢. Such a profit point can only be determined as a function of the costs.

The above-described difference between the prices of products to customers and the costs of the products to the business permits the POS terminal to determine upsells which (i) are profitably sold for the change due to a customer, and also
5 (ii) provide the customer with a product at a reduced price, in exchange for his change. Providing the product at a reduced price tends to increase customer satisfaction, generate additional revenue for the business and increase inventory turnover. At the same time, the prices of products need not be
10 reduced, and thus the profits from sales of these products (besides upsells) remain substantially or completely unaffected by offering upsells.

One type of upsell, which several kinds of businesses may offer, is an upgrade from a first product to a second
15 product. Accordingly, a combination of (i) a purchase including a first product, and (ii) an upsell including an upgrade from a first product to a second product would effectively result in the upgrade from the first product to the second product. A restaurant, for example, may offer an upsell comprising an
20 upgrade from a small soda to a large soda, or an upgrade from a plain taco to a deluxe taco. An electronics store may offer an upsell that extends the effective term of a warranty.

Another type of upsell is an additional product to supplement the customer's purchase. For example, a restaurant

may offer an upsell comprising a promotional cup or a dessert; a video store may offer an upsell comprising a movie rental ticket, additional videotape or promotional hat; a vending machine may offer an upsell that provides an extra candy bar; an
5 appliance store may offer an upsell comprising a warranty; and a supermarket may offer an upsell comprising any one item from a bin of perishable goods. Such a supermarket upsell is particularly advantageous in generating revenue and liquidating perishable products.

10 Fig. 2 illustrates a method 40 for determining an upsell of a purchase at a POS terminal. The POS terminal of this embodiment, for example the POS terminal 10, maintains a database of upsell prices and corresponding upsells (step 42). The POS terminal furthermore generates a purchase price of a
15 purchase (step 44), and sets the required payment amount 26 (Fig. 1a) to be equal to the purchase price (step 46). The step of generating a purchase price may comprise, for example, (i) pressing keys on the input device 14 (Fig. 1a) which each correspond to a product, (ii) pressing numeric keys on the input
20 device 14 which correspond to the digits of the purchase price, or (iii) receiving digital signals indicative of a currency value from a remote computing device.

The POS terminal then generates a "rounded" price (step 48), and calculates a round-up amount (step 50) equal to

the difference between the purchase price and the rounded price. The rounded price may be calculated as, for example, the smallest whole number dollar amount that is greater than the purchase price, the smallest multiple of five dollar amount that is greater than the purchase price, or the amount of money tendered by the customer, which may or may not be a whole number amount. When the rounded price is a whole number, the customer can easily tender bills and in turn receive, at his discretion, either (i) no change, or (ii) change which consists solely of bills, not coins. When the rounded price is a multiple of large coins, such as nickels, dimes, quarters or half dollars, the customer can receive change that consists solely of coins the customer desires, such as quarters. Many other forms of rounded prices may be calculated in accordance with the present invention.

The POS terminal then determines at least one upsell to be exchanged for the round-up amount (change due). Preferably, to identify the upsell, the POS terminal compares the round-up amount with at least one of the upsell prices in the upsell database (step 52) to identify at least one upsell having an upsell price including the round-up amount. If the round-up amount corresponds to an upsell price (step 54), the POS terminal identifies an upsell (step 56) which corresponds to that upsell price, thereby identifying the upsell to exchange.

The POS terminal then outputs signals indicative of the identified upsell (step 58), such as displaying text and/or graphics that explain to the customer and/or the cashier that the identified upsell may be purchased for the round-up amount.

5 The customer indicates to the cashier whether he accepts or rejects the offered upsell. The cashier then presses a button on the POS terminal or otherwise generates a selection signal for indicating selection between the identified upsell and change (step 60). If the selection signal indicates
10 selection of the upsell, the required payment amount is set to be equal to the rounded price (step 62). Thus, the customer tenders cash, a check or a credit card to satisfy the amount of money expected to be paid, and receives the upsell in exchange for the round-up amount.

15 As discussed above, those skilled in the art will realize that the required payment amount may comprise a single stored value or a plurality of values which each correspond to an amount of money expected to be paid for one or more products. For example, the step 62 of setting the required payment amount
20 to be equal to the rounded price may comprise (i) setting a stored unitary value to be equal to the rounded price; or (ii) setting a first stored value to be equal to the purchase price and setting a second stored value to be equal to the round-up amount, similar to the case where two purchases are recorded.

In the example illustrated in Fig. 3, a customer at a fast-food restaurant orders a purchase that includes a hamburger and a small soda. A cashier records the purchase at a POS terminal, and the POS terminal in turn determines the product prices of each of the hamburger and the small soda from entries 5 70 and 72 in the inventory price database 28. The POS terminal generates therefrom the purchase price \$1.62, and sets the required payment amount 26 to be \$1.62.

The POS terminal then generates a "rounded" price of 10 \$2.00 (using, in this example, "2" as the smallest whole number which is greater than the purchase price), and calculates a round-up amount 74 of $\$2.00 - \$1.62 = 38\text{¢}$. Since the rounded price is a whole number, the customer may easily tender bills and receive either no change or change which consists solely of 15 bills, not coins.

The POS terminal compares the round-up amount 74 with at least one of the upsell prices in the upsell database 30. The round-up amount 74 corresponds to a compared upsell price 76 (the range from 2¢ to 45¢), and the product sold (small soda) 20 corresponds to the upsell condition 78, so the POS terminal identifies an upsell 80 in the upsell database 30 which corresponds to the upsell price 76. The POS terminal then displays text or graphics that explain to the customer and/or

the cashier that the upsell 80 may be purchased for the specified amount of change due (the round-up amount 74).

The customer indicates to the cashier whether he accepts or rejects the offered upsell. The cashier then presses
5 a button on the POS terminal or otherwise generates a selection signal for indicating selection between the identified upsell 80 and change. If the selection signal does not indicate selection of change, but instead selection of the upsell 80, the required payment amount 26 is set to be equal to the rounded price.
10 Thus, the customer receives the upsell (an upgrade from a small soda to a large soda), and there are no coins due.

In some embodiments of the present invention, the POS terminal determines the upsell(s) by identifying at least one upsell in the database that corresponds to the compared upsell
15 price. For example, an upsell comprising a small soda may correspond to an upsell price range of between 2¢ and 20¢. In other embodiments, the POS terminal determines the upsell(s) by identifying at least one upsell in the database which corresponds to both (i) the compared upsell price, and (ii) at
20 least one "purchase condition".

A purchase condition is a condition in effect when the purchase is processed at the POS terminal. Some types of purchase conditions are the purchase price, time of day, day of the week, season, the identity of a product included in the

purchase, the cost of a product included in the purchase, and/or past purchases made by the customer. Other types of purchase conditions may be employed without departing from the spirit and scope of the present invention.

5 The use of purchase conditions in the present invention allows upsells to be more accurately determined, and in turn increases the likelihood that an upsell will appeal to a customer and be exchanged for change due. For example, at certain times during a day, a customer may have a stronger
10 desire for certain upsells. A meal is a more appealing upsell during dinnertime than during the mid-afternoon, and a video rental is more appealing in the evening than in the morning. Accordingly, consideration of the time of a purchase may allow more appealing upsells to be offered.

15 In embodiments that employ purchase conditions, upsell prices in the upsell database have a corresponding upsell and at least one corresponding upsell condition to compare with the purchase condition. Furthermore, the POS terminal generates the purchase condition(s) in any of a number of ways. For example,
20 a clock signal can provide the time and/or date, the purchase recorded by the POS terminal can provide the identity of products, and a "frequent shopper card" can provide signals indicative of the customer's identity and past purchases made by the customer.

Referring to Fig. 4, an upsell database 90, which is one embodiment of the upsell database 30 of Fig. 1a, includes upsell prices 92, upsell descriptors 94 and a plurality of upsell conditions, including the items purchased 96, whether a customer identifier is required 98, customer product preferences 100, the time of day 102 and cost 103 to the business. The entries in the upsell database 90 may be uniquely identified by upsell codes 104.

Several types of purchase conditions, which are compared with upsell conditions, may be stored in one or more databases in the storage device 22 (Fig. 1a). For example, Fig. 5 illustrates a customer database 110, which includes unique customer identifiers 112, as well as customer-specific information, such as name 114, address 116, telephone number 118 and historical product preferences 120. The POS terminal 10 (Fig. 1a) may employ the customer database 110 to determine various purchase conditions, and offer upsells accordingly as described above. A customer at a POS terminal may provide a corresponding customer identifier, and thereby provide his customer-specific information, in any of a number of ways. For example, the customer may type his customer identifier into the POS terminal, or may "swipe" (pass) a frequent-shopper card containing a unique identification code through a card reader at the POS terminal.

Other types of purchase conditions may be derived from an inventory price database. Referring to Fig. 6, an inventory price database 130, which is one embodiment of the inventory price database 28 of Fig. 1a, includes products 132 and
5 corresponding product prices 134. The inventory price database 130 may also include unique product identifiers 136, as well as the numbers of such products in stock 138. It may also be desirable to store the "age" (expiration date or time) 140 of certain types of products, thus allowing older products to be
10 identified and offered as upsells.

For each purchase, the above-described purchase conditions, the round-up amount and whether the upsell was selected may be stored in a database of offered upsells. Such a database of offered upsells could provide information on which
15 upsells were accepted by customers, and under what circumstances the upsells were accepted. Thus, from this database, the value of upsells to consumers may be determined, and the upsell database can be adjusted accordingly. For example, if consumers rarely accept a certain upsell, the upsell may be eliminated
20 from the database or may be offered in exchange for much smaller amounts of change.

Fig. 7 illustrates an embodiment of an offered upsell database 150 stored in the storage device 22 (Fig. 1a). The offered upsell database 150 includes upsells which were offered

152, the corresponding round-up amount 154 and which upsell, if
any, was accepted 156. Other purchase conditions may be
desirable to store in the offered upsell database 150, such as
the date 158 of the offered upsell, a unique customer identifier
5 160, an expiration period 162 for redeeming the upsell, if any,
and the date 164 the upsell was accepted (redeemed), if any.

In the embodiments discussed above, the POS terminal
identified a single upsell to offer in exchange for a round-up
amount. However, the POS terminal 10 (Fig. 1a) may identify
10 more than one upsell that corresponds to an upsell price. In
such an embodiment, the POS terminal 10 can provide the customer
with a selection of possible upsells. The POS terminal 10 may
display all of these upsells simultaneously, or may display the
upsells sequentially.

15 In embodiments where the upsells are displayed
simultaneously, the customer selects from among the displayed
upsells. In embodiments where the upsells are displayed
sequentially, the customer may reject (fail to select) the first
displayed upsell, and the POS terminal 10 then displays a second
20 upsell. Sequentially-displayed upsells can be sorted according
to a sorting criteria, allowing the sequence of displayed
upsells to proceed in a desired manner. Thus, a first upsell
that is sorted before a second upsell is displayed first. If

the first upsell is not selected, the second upsell is then displayed.

The upsells may be sorted according to the profit earned on each upsell. In such an embodiment, the upsell
5 yielding the highest profit to the business is offered first. If the customer rejects the highest profit upsell, other upsells having lower profits may be subsequently-displayed. Thus, even if a customer rejects a first upsell, he may select a subsequent upsell that still provides profit to the seller.

10 In certain other embodiments of the present invention, the POS terminal provides a second upsell having a higher-value to the customer if a first upsell has been rejected. Such a higher-value upsell may be more likely to be accepted than the first upsell. Such a sequence of increasingly-valuable offers
15 may result in the customer's consistent rejection of the first upsell offer. Accordingly, in another embodiment, the POS terminal generates a random number using any of a number of known methods. The random number may be used to determine (i) whether subsequent upsells are offered at all, or (ii) the
20 relative order in which the upsells of different value will be offered. Thus, customers are unsure of whether a second upsell will be offered and/or what the value of a second upsell may be, so they will not automatically reject the first upsell.

Fig. 8 illustrates a method 180 in which the customer provides a counter-offer to exchange his change for a second upsell. The POS terminal then determines whether to accept this counter-offer.

5 As described above, the POS terminal outputs signals indicative of a first (identified) upsell (step 182). The POS terminal generates a selection signal for indicating selection between the first upsell, change and a second upsell (counter-offer by customer). If the selection signal indicates selection
10 of the first upsell (step 184), then, as described above, the required payment amount is set equal to the purchase price (step 186). However, if the selection signal indicates selection of the second upsell (step 188) (i.e., the customer counter-offers for the second upsell), a second upsell price corresponding to
15 the second upsell is determined (step 190) from the upsell database. If the calculated round-up amount corresponds to the second upsell price (step 192) (i.e., the customer's change is sufficient for the second upsell), the required payment amount is set to be equal to the rounded price (step 186), and the
20 second upsell is thereby accepted.

Besides product upgrades and additional products, another type of upsell is a voucher that is redeemable for a product or a discount thereon. Vouchers can be especially valuable to a seller because they attract customers back to a

business and possibly provide repeat sales. A customer is typically more likely to return to a business to use a purchased voucher (i.e. purchased with his change) than to use a free voucher. Vouchers provide further value to the seller through
5 the possibility of breakage (i.e. loss and thus non-redemption of a purchased voucher).

A voucher may either be related to the round-up amount or independent thereof. For example, one type of voucher is a coupon redeemable for a discount on a future purchase, in which
10 the discount amount is equal to the round-up amount of the present purchase. In contrast, another type of voucher is a coupon redeemable for a certain product, regardless of the round-up amount of the present purchase.

Upon accepting the upsell, either the cashier presents
15 a pre-printed coupon to the customer, or the POS terminal prints one for the customer. Printed vouchers may be registered with many different types of indicia, such as redemption information, a unique identifier, the date of the purchase or an expiration date.

20 In embodiments that include printing a unique identifier on the voucher, the POS terminal maintains a database for storing a plurality of identifiers. When a new voucher must be printed, the POS terminal generates a unique identifier that does not already exist in the identifier database. This

identifier is then stored in the identifier database. By searching the identifier database for a voucher identifier, redemption of the voucher may be tracked and the same voucher cannot be redeemed more times than permissible.

5 Referring to Fig. 9, the storage device 22 stores an identifier database 200, which includes unique identifiers 202 for identifying each voucher. The identifier database 200 may further include voucher face values 204, which may (or may not) equal the round-up amount exchanged for the voucher. Stored
10 voucher face values allow each voucher to be redeemed for a different value, while minimizing fraud. For example, the voucher face values 204 stored in the database 200 may be retrieved upon redemption and compared with values printed on the vouchers. Discrepancies between stored and printed voucher
15 values would indicate forgery of the printed voucher.

Yet another type of upsell is an entry in a game, such as a lottery, contest, sweepstakes or other game. In some embodiments, the prize for winning the game depends on the round-up amount used to purchase the game entry. For example,
20 the prize for winning the game may be proportional to the round-up amount paid for the game entry. In such embodiments, the prize collected upon winning the game is greater for greater round-up amounts. In other embodiments, the probability of winning may be greater for greater round-up amounts. For

example, a game entry for which a customer paid \$1.50 may have twice as much of a chance of winning as a game entry for which another customer paid 75¢.

Upon receiving an input indicating selection of the
5 game upsell in exchange for the round-up amount, the POS
terminal generates a unique identifier to identify the game
entry. The unique identifier and the round-up amount are stored
in a game database of identifiers and round-up amounts. When a
winning entry is determined, the game database provides the
10 round-up amount corresponding to the entry, and thereby
determines the prize value.

The game database may be, for example, a database
maintained by the POS terminal and stored in the storage device
22 (Fig. 1a). In another embodiment illustrated by Fig. 10, the
15 game database resides in a lottery data processing system 220
that is connected to POS terminals 222 and 223 through a
communication link 224. Although two POS terminals are shown in
Fig. 10 for purposes of clarity, more POS terminals may be
connected to the lottery data processing system 220.

20 The lottery data processing system 220 is typically a
controller located in a store for controlling lottery ticket
transactions performed at POS terminals in the store. The
system 220 thereby serves to collect and store lottery
transactions (such as lottery ticket upsells) performed at the

store's POS terminals. Such centralized control of lottery transactions allows customers at a number of POS terminals to each receive upsells that permit participation in a single lottery, contest or other game.

5 The lottery data processing system 220 comprises a microprocessor 226 for controlling other components described below. The microprocessor 226 communicates with each of a cryptographic processor 228 for authenticating lottery transactions and a random number generator 230 for generating
10 "quick-pick" lottery numbers for each game entry. A storage device 232 also communicates with the microprocessor 226, and stores (i) the above-described game database 234 of identifiers and round-up amounts; (ii) a POS terminal controller database 236 for maintaining information on POS terminals connected to
15 the lottery data processing system 220, such as a unique identifier for each terminal and the specific lottery transactions of each terminal; and (iii) a winning lottery ticket number database 238 for storing winning numbers, and thereby indicating winning entries.

20 In each of the embodiments of the present invention described above, the customer selects and receives an upsell. However, as described below, the customer may prefer to transfer ("donate") his upsell to a second customer, with the upsell being received by the second customer at his next visit to a POS

terminal. The second customer may visit the POS terminal, for example, to pay for products, as described above, or specifically to collect the donated upsell.

Fig. 11 depicts a customer database 260 which is
5 another embodiment of the customer database 110 (Fig. 5) stored in the storage device 22. The customer database 260 includes unique customer identifiers 262, as well as customer-specific information described above, such as name 264, address 266, telephone number 268 and historical product preferences 270. In
10 addition, the customer database 260 includes linked customer identifiers 272 that identify others (if any) to which the customer's upsells are donated.

For example, using the functionality of the customer database 260, a customer may specify that an acquaintance
15 receives the customer-earned upsell. The customer database 260 also includes upsells due 274 to the customer, such as upsells previously earned or transferred to him by another, as well as upsell expiration dates 275 indicating the last dates for receiving the upsells due.

20 Using the exemplary data shown in the database 260 of Fig. 11, a first customer identifier 276 of the record 277 identifies a customer name "Bill Smith" and further identifies a corresponding linked customer through identifier 278 in field 272. This linked customer identifier 278 corresponds to the

customer identifier 280 identifying the customer "Jill Smith".
Accordingly, Jill Smith has been identified and receives upsells
donated by Bill Smith.

An upsell due 282 is associated with customer
5 identifier 280 of record 281 (Jill Smith). The upsell due 282
is provided based on a purchase by Bill Smith, and is collected
by Jill Smith during a visit to a POS terminal. The upsell
identifier "A" in field 274 may comprise, for example, a small
soda. Thus, the use of "linked customers" thus allows customers
10 to transfer earned upsells, or even purchased products, thereby
increasing both customer satisfaction and customer retention.

A customer may prefer to randomly donate his upsell to
one (or more) of a number of customers, such as a number of
family members or a predetermined list of needy families, rather
15 than to any one customer in particular. In such an embodiment,
the donating customer may first designate an associated group of
linked customer identifiers 272. Alternatively, the customer
may let the store select a group of customers. A random one (or
more) of this group is selected by the POS terminal as the
20 recipient of the upsell.

Referring now to Figs. 12a and 12b, a process 300 is
shown whereby automated upsell processing is performed for a
customer having a frequent shopper card. A customer who wishes
to register for a frequent shopper card which stores his

preferences provides personal information (step 302), such as his name, address and/or telephone number, to a POS operator or other person who responsible for data entry. This personal information is then stored (step 304) in a record of the
5 customer database. Such records are exemplified in Fig. 11 by the records 276 and 281 of the customer database 260.

The customer selects (step 306) if he would like to normally receive an upsell, rather than change. If he so selects, possible choices of upsells are displayed (step 308) to
10 the customer. The customer chooses which of the displayed upsells he prefers to normally receive (step 310), and the chosen upsell is stored (step 312) in the historical preferences field 270 of his customer record.

The customer may also choose (step 314) if he would
15 like to donate his upsells to a "linked" customer having a frequent shopper card. If so, the customer provides information (step 316) identifying the linked customer, such as the name, address and/or account number of the linked customer. The customer may select multiple other linked customers to receive
20 donated upsells. The information is verified (step 318) to assure that the second customer may be properly identified from the information provided, and the information is stored in the customer database record. As necessary, additional customer records are created for second and subsequent customer(s).

Possible upsells to donate to the second customer are displayed (step 320) to the customer. The customer chooses which of the displayed upsells he prefers to normally transfer (step 322), and the chosen upsell is stored (step 324) in the
5 customer record. Finally, the customer is issued his frequent shopper card (step 326) through which the POS terminal may identify his customer record.

Referring to Fig. 13, a method 340 for applying previously-selected customer preferences to a current visit to a
10 POS terminal begins with a determination (step 342) of whether a frequent shopper card is being used. Such a determination may be made, for example, by receiving a signal from a card reader, thereby indicating that a card has been "swiped" through the card reader. If a frequent shopper card is not being used, an
15 upsell is determined (step 344) as previously described, and an upsell (if selected) is provided to the customer (step 346) in exchange for his change.

If a frequent shopper card is being used, the customer database is searched to determine (step 348) if the customer has
20 a preferred upsell. If he does, the preferred upsell is selected (step 350). The customer database is also searched to determine (step 352) if the customer has established a second customer to receive donated upsells. If so, an identifier for the selected upsell is stored (step 354) in an account of the

second customer, thereby indicating that the second customer may receive the selected upsell. In other embodiments, the second customer may receive donated products that are not upsells, such as products bought for "list" price.

5 Referring now to Fig. 14, a method 370 illustrates how the second customer may receive the donated upsell. While at the POS terminal, the second customer swipes his frequent shopper card through a card reader (step 372), thereby identifying a customer record of the customer database providing
10 information on his preferences and any upsells donated to him. The customer record is searched to determine (step 374) if an upsell has been donated to the second customer. If not, the second customer completes his transaction (step 376) at the POS terminal as described above. If an upsell has been donated, the
15 second customer is informed and the upsell is provided (step 378), thereby clearing the donated upsell from the record of the second customer. A transaction-specific upsell, dependent on the change of the second customer, can be offered in addition to the donated upsell.

20 As described above, an upsell may have a corresponding expiration date after which the upsell may not be redeemed. For example, a donated upsell may be transferred only if the second customer collects the upsell through the above-described method 370 (Fig. 14) before a predetermined date. An expiration date

for donated upsells is especially advantageous to a store in that it can increase customer retention by providing an incentive to visit the store having the POS terminals before the upsell expires. Breakage also provides the store with profit.

5 In many of the embodiments presented herein, the methods and apparatus of the present invention have been described in detail with respect to a single device functioning as a POS terminal, such as a cash register. However, as also described above, the functionality of the present invention may
10 be implemented by a plurality of devices sharing the described functionality, such as the multi-unit system illustrated in Fig. 1b.

 Accordingly, Fig. 15 illustrates a method 390 for determining an upsell at a POS terminal in accordance with the
15 embodiment of fig. 1b. The method 390 may be performed, for example, by a combination of a cash register and a processing system operated by an electronic marketing service or credit card clearing house. The cash register generates a purchase price and transmits the purchase price to the processing system
20 (step 392).

 The processing system generates a rounded price (step 394), and generates a round-up amount in dependence thereupon (step 396). As described above, the processing system identifies an upsell to offer to the customer (step 398). If

the customer selects the upsell (step 400), then the required payment amount of the cash register is set, manually or automatically through a connection with the processing system to the rounded price (step 402).

5 It will be understood by those skilled in the art that many different systems may be provided wherein the functionality of the present invention is shared amongst multiple hardware and/or software devices.

10 Although the present invention has been described with respect to a preferred embodiment thereof, those skilled in the art will understand that various substitutions may be made to those embodiments described herein without departing from the spirit and scope of the present invention. For example, many other types of upsells that are not discussed in detail herein
15 are contemplated by the present invention. One such upsell may comprise "points", such as those redeemable for store credit, telephone calls, Internet access or pay television events. Furthermore, many types of POS terminals, besides those requiring cashiers, are contemplated by the present invention.

We claim:

1. A method for determining an upsell of a purchase at a point-of-sale terminal, comprising:

generating a purchase price of the purchase;

5 generating a rounded price;

calculating a round-up amount, the round-up amount being a difference between the purchase price and the rounded price;

generating a selection signal for indicating selection between the upsell and change; and

10 exchanging the round-up amount for the upsell if the selection signal indicates selection of the upsell.

2. The method of claim 1, further comprising:

if the selection signal indicates selection of change,

identifying a second upsell,

generating a second selection signal for indicating

5 selection between the second upsell and change, and

exchanging the round-up amount for the second upsell

if the second selection signal indicates selection of the second upsell.

3. The method of claim 2, further comprising:
generating a random value; and wherein the step of
identifying a second upsell is performed only if the random
value is within a prescribed range of values.

5

4. The method of claim 1, further comprising:
printing a voucher.

5. The method of claim 4, further comprising:
maintaining an identifier database;
generating a unique identifier;
storing the unique identifier in the identifier database;

5 and

printing the unique identifier on the voucher.

6. The method of claim 4, further comprising:
generating a date identifier in dependence on a date of the
purchase; and
printing the date identifier on the voucher.

5

7. The method of claim 1, further comprising:
maintaining a database of offered upsells;

storing the round-up amount in the database of offered upsells;

- 5 storing the upsell in the database of offered upsells; and
storing the selection signal in the database of offered upsells.

8. The method of claim 7, further comprising:

storing a date of the purchase in the database of offered upsells.

9. The method of claim 1, wherein the upsell comprises a game entry.

10. The method of claim 9, further comprising:

maintaining a game database;

generating a unique identifier;

storing the unique identifier in the game database; and

- 5 storing the round-up amount in the game database.

11. The method of claim 1, further comprising:

if the selection signal indicates selection of the upsell,
storing signals indicative of the upsell in a customer record,
thereby associating the upsell with a customer.

5

12. The method of claim 11, further comprising:

storing signals indicative of a first customer identifier
for identifying a first customer who donates the upsell; and

storing signals indicative of a second customer identifier
5 for identifying a second customer who receives the upsell.

13. The method of claim 11, further comprising:

storing signals indicative of a first customer identifier
for identifying a first customer who donates the upsell;

storing signals indicative of a plurality of customer
5 identifiers for identifying a plurality of customers; and

selecting at least one of the plurality of customer
identifiers, thereby selecting at least one customer to receive
the upsell.

14. The method of claim 1, wherein the step of identifying the
upsell comprises identifying a plurality of upsells in the

database which correspond to the compared upsell price, and

wherein the step of outputting comprises outputting signals

5 indicative of at least one of the plurality of identified
upsells.

15. The method of claim 14, further comprising:

generating a selection signal for indicating selection between at least one of the plurality of identified upsells and change.

5

16. The method of claim 14, further comprising:

sorting the plurality of identified upsells, thereby arranging a first upsell to be ordered before a second upsell.

17. The method of claim 16, wherein the step of outputting comprises outputting signals indicative of the first upsell.

18. The method of claim 17, further comprising:

generating a selection signal for indicating selection between the identified upsell and change; and

outputting signals indicative of the second upsell if the
5 selection signal does not indicate selection of the first upsell.

19. The method of claim 16, wherein the step of sorting comprises sorting the plurality of identified upsells according to a cost of each identified upsell.

20. The method of claim 1, further comprising:

generating a purchase condition,

and wherein the step of maintaining a database comprises:

maintaining a database of at least one upsell price and a
5 corresponding upsell and at least one corresponding upsell
condition,

and wherein the step of identifying comprises:

identifying at least one upsell in the database which
corresponds to the compared upsell price and the purchase
10 condition.

21. The method of claim 1, wherein the step of generating a
rounded price comprises generating a rounded price in dependence
on a whole number which is greater than the purchase price.

22. The method of claim 21, wherein the step of generating a
rounded price comprises generating a rounded price in dependence
on the smallest whole number which is greater than the purchase
price.

5

23. The method of claim 1, wherein the step of generating a
rounded price comprises generating a rounded price in dependence
on a multiple of $\frac{1}{4}$ which is greater than the purchase price.

24. The method of claim 1, further comprising:

storing a preferred-upsell signal indicative of an upsell for each of a plurality of customers.

25. The method of claim 24, wherein the step of generating the selection signal comprises accessing the stored preferred-upsell signals, and generating the selection signal in dependence thereupon.

5

26. A method for determining an upsell of a purchase at a point-of-sale terminal, comprising:

maintaining a database of at least one upsell price and a corresponding upsell;

5

generating a purchase price of the purchase;

generating a rounded price;

calculating a round-up amount, the round-up amount being a difference between the purchase price and the rounded price;

10 comparing the calculated round-up amount with at least one of the upsell prices in the database; and

if the calculated round-up amount corresponds to a compared upsell price, identifying at least one upsell in the database which corresponds to the compared upsell price.

27. The method of claim 26, further comprising:

generating a selection signal for indicating selection between the identified upsell and change.

28. The method of claim 27, wherein the database includes a plurality of upsell prices and corresponding upsells, the method further comprising:

if the selection signal indicates selection of change,
5 identifying a second upsell in the database which corresponds to the compared upsell.

29. The method of claim 26, wherein the step of generating a selection signal comprises:

generating a selection signal for indicating selection between the identified upsell, change and a second upsell,
5 and the method further comprising:
if the selection signal indicates selection of the second upsell, determining a second upsell price corresponding to the second upsell.

30. The method of claim 27, further comprising:
printing a voucher.

31. The method of claim 30, further comprising:
printing an identifier on the voucher.

32. The method of claim 30, further comprising:

maintaining an identifier database;

generating a unique identifier;

storing the unique identifier in the identifier database;

5 and

printing the unique identifier on the voucher.

33. The method of claim 30, further comprising:

generating a date identifier in dependence on a date of the purchase; and

printing the date identifier on the voucher.

5

34. The method of claim 27, further comprising:

maintaining a database of offered upsells;

storing the round-up amount in the database of offered upsells;

5 storing the identified upsell in the database of offered upsells; and

storing the selection signal in the database of offered upsells.

35. The method of claim 34, further comprising:

storing a date of the purchase in the database of offered upsells.

36. The method of claim 27, wherein the upsell comprises a game entry.

37. The method of claim 36, further comprising:

maintaining a game database;

generating a unique identifier;

storing the unique identifier in the game database; and

5 storing the round-up amount in the game database.

38. The method of claim 27, further comprising:

if the selection signal indicates selection of the identified upsell, storing signals indicative of the identified upsell in a customer record, thereby associating the identified
5 upsell with a customer.

39. The method of claim 38, further comprising:

storing signals indicative of a first customer identifier for identifying a first customer who donates the identified upsell; and

5 storing signals indicative of a second customer identifier
for identifying a second customer who receives the donated
upsell.

40. The method of claim 38, further comprising:

storing signals indicative of a first customer identifier
for identifying a first customer who donates the identified
upsell;

5 storing signals indicative of a plurality of customer
identifiers for identifying a plurality of customers; and
selecting at least one of the plurality of customer
identifiers, thereby selecting at least one customer who
receives the donated upsell.

10

41. The method of claim 27, further comprising:

storing a preferred-upsell signal indicative of an upsell
for each of a plurality of customers.

42. The method of claim 41, wherein the step of generating the
selection signal comprises accessing the stored preferred-upsell
signals, and generating the selection signal in dependence
thereupon.

5

43. The method of claim 26, wherein the step of identifying the upsell comprises identifying a plurality of upsells in the database which correspond to the compared upsell price.

44. The method of claim 43, further comprising:

generating a selection signal for indicating selection between at least one of the plurality of identified upsells and change.

5

45. The method of claim 43, further comprising:

sorting the plurality of identified upsells, thereby arranging a first upsell to be ordered before a second upsell.

46. The method of claim 45, wherein the step of sorting comprises sorting the plurality of identified upsells according to a cost of each identified upsell.

47. The method of claim 26, further comprising:

generating a purchase condition,

and wherein the step of maintaining a database comprises:

maintaining a database of at least one upsell price and a
5 corresponding upsell and at least one corresponding upsell condition,

and wherein the step of identifying comprises:

identifying at least one upsell in the database which
corresponds to the compared upsell price and the purchase
10 condition.

48. The method of claim 26, wherein the step of generating a
rounded price comprises generating a rounded price in dependence
on a whole number which is greater than the purchase price.

49. The method of claim 48, wherein the step of generating a
rounded price comprises generating a rounded price in dependence
on the smallest whole number which is greater than the purchase
price.

5

50. The method of claim 26, wherein the step of generating a
rounded price comprises generating a rounded price in dependence
on a multiple of $\frac{1}{4}$ which is greater than the purchase price.

51. An apparatus for determining an upsell of a purchase,
comprising:

a storage device; and

a processor connected to the storage device,

5 the storage device storing

a database of at least one upsell price and a
corresponding upsell, and

a program for controlling the processor; and
the processor operative with the program to
10 generate a purchase price of the purchase,
generate a rounded price,
calculate a round-up amount, the round-up amount being
a difference between the purchase price and the rounded price,
compare the calculated round-up amount with at least
15 one of the upsell prices in the database, and
if the calculated round-up amount corresponds to a
compared upsell price, identify at least one upsell in the
database which corresponds to the compared upsell price.

52. The apparatus of claim 51, wherein the processor is further
operative with the program to generate a selection signal for
indicating selection between the identified upsell and change.

53. The apparatus of claim 52, wherein the database includes a
plurality of upsell prices and corresponding upsells, and
wherein the processor is further operative with the program to
identify a second upsell in the database which corresponds to
5 the compared upsell if the selection signal indicates selection
of change.

54. The apparatus of claim 51, wherein the processor is further operative with the program to:

generate a selection signal for indicating selection between the identified upsell, change and a second upsell, and

5 if the selection signal indicates selection of the second upsell, determine a second upsell price corresponding to the second upsell.

55. The apparatus of claim 52, further comprising:

a printer connected to the processor for printing a voucher.

56. The apparatus of claim 55, wherein the processor is further operative with the program to drive the printer to print an identifier on the voucher.

57. The apparatus of claim 55, wherein the storage device further stores an identifier database; and wherein the processor is further operative with the program to:

generate a unique identifier;

5 store the unique identifier in the identifier database; and drive the printer to print the unique identifier on the voucher.

58. The apparatus of claim 55, wherein the processor is further operative with the program to:

generate a date identifier in dependence on a date of the purchase; and

5 drive the printer to print the date identifier on the voucher.

59. The apparatus of claim 52, wherein the storage device further stores a database of offered upsells; and wherein the processor is further operative with the program to:

5 store the round-up amount in the database of offered upsells;

store the identified upsell in the database of offered upsells; and

10 store the selection signal in the database of offered upsells.

60. The apparatus of claim 59, wherein the processor is further operative with the program to store a date of the purchase in the database of offered upsells.

61. The apparatus of claim 52, wherein the upsell comprises a game entry.

62. The apparatus of claim 61, wherein the storage device further stores a game database, and wherein the processor is further operative with the program to:

generate a unique identifier;
5 store the unique identifier in the game database; and
store the round-up amount in the game database.

63. The apparatus of claim 52, wherein the storage device further stores a customer record, and wherein the processor is further operative with the program to:

if the selection signal indicates selection of the
5 identified upsell, store signals indicative of the identified upsell in the customer record, thereby associating the identified upsell with a customer.

64. The apparatus of claim 63, wherein the storage device further stores:

signals indicative of a first customer identifier for identifying a first customer who donates the identified upsell;
5 and
signals indicative of a second customer identifier for identifying a second customer who receives the donated upsell.

65. The apparatus of claim 63, wherein the storage device further stores:

signals indicative of a first customer identifier for identifying a first customer who donates the identified upsell;
5 and

signals indicative of a plurality of customer identifiers for identifying a plurality of customers;

and wherein the processor is further operative with the program to select at least one of the plurality of customer
10 identifiers, thereby selecting at least one customer who receives the donated upsell.

66. The apparatus of claim 52, wherein the storage device further stores a preferred-upsell signal indicative of an upsell for each of a plurality of customers.

67. The apparatus of claim 66, wherein the processor is further operative with the program to access the stored preferred-upsell signals, and generate the selection signal in dependence thereupon.

5

68. The apparatus of claim 51, wherein the processor is further operative with the program to identify a plurality of upsells in the database which correspond to the compared upsell price.

69. The apparatus of claim 68, wherein the processor is further operative with the program to:

generate a selection signal for indicating selection
between at least one of the plurality of identified upsells and
5 change.

70. The apparatus of claim 68, wherein the processor is further operative with the program to:

sort the plurality of identified upsells, thereby arranging
a first upsell to be ordered before a second upsell.
5

71. The apparatus of claim 70, wherein the processor is further operative with the program to sort the plurality of identified upsells according to a cost of each identified upsell.

72. The apparatus of claim 51, wherein the storage device further stores:

a database of at least one upsell price and a corresponding upsell and at least one corresponding upsell condition;
5 and wherein the processor is further operative with the program to

generate a purchase condition, and

identify at least one upsell in the database which
corresponds to the compared upsell price and the purchase
10 condition.

73. The apparatus of claim 51, wherein the processor is further
operative with the program to generate a rounded price in
dependence on a whole number which is greater than the purchase
price.

5

74. The apparatus of claim 73, wherein the processor is further
operative with the program to generate a rounded price in
dependence on the smallest whole number which is greater than
the purchase price.

5

75. The apparatus of claim 51, wherein the processor is further
operative with the program to generate a rounded price in
dependence on a multiple of $\frac{1}{4}$ which is greater than the purchase
price.

5

76. A method for determining an upsell of a purchase at a
point-of-sale terminal, the terminal storing a required payment
amount, comprising:

maintaining a database of at least one upsell price and a
5 corresponding upsell;

generating a purchase price of the purchase;
setting the required payment amount to be equal to the
purchase price;
generating a rounded price;
10 calculating a round-up amount, the round-up amount being a
difference between the purchase price and the rounded price;
comparing the calculated round-up amount with at least one
of the upsell prices in the database; and
if the calculated round-up amount corresponds to a compared
15 upsell price,
identifying at least one upsell in the database which
corresponds to the compared upsell price, and
outputting signals indicative of the identified
upsell.
20
77. The method of claim 76, further comprising:
generating a selection signal for indicating selection
between the identified upsell and change; and
setting the required payment amount to be equal to the
5 rounded price if the selection signal indicates selection of the
identified upsell.

78. The method of claim 77, wherein the database includes a plurality of upsell prices and corresponding upsells, the method further comprising:

if the selection signal indicates selection of change,
5 identifying a second upsell in the database which corresponds to the compared upsell price, and
outputting signals indicative of the identified second upsell.

79. The method of claim 78, further comprising:

generating a random value; and wherein the step of
outputting signals indicative of the identified second upsell is
performed only if the random value is within a prescribed range
5 of values.

80. The method of claim 76, wherein the step of generating a selection signal comprises:

generating a selection signal for indicating selection
between the identified upsell, change and a second upsell,
5 and the method further comprising:
if the selection signal indicates selection of the second upsell,

determining a second upsell price corresponding to the second upsell, and

10 setting the required payment amount to be equal to the rounded price if the calculated round-up amount corresponds to the second upsell price.

81. The method of claim 77, further comprising:
printing a voucher.

82. The method of claim 81, further comprising:
printing an identifier on the voucher.

83. The method of claim 81, further comprising:
maintaining an identifier database;
generating a unique identifier;
storing the unique identifier in the identifier database;

5 and
printing the unique identifier on the voucher.

84. The method of claim 81, further comprising:
generating a date identifier in dependence on a date of the purchase; and
printing the date identifier on the voucher.

5 85. The method of claim 77, further comprising:
maintaining a database of offered upsells;

storing the round-up amount in the database of offered upsells;

5 storing the identified upsell in the database of offered upsells; and

storing the selection signal in the database of offered upsells.

86. The method of claim 85, further comprising:

storing a date of the purchase in the database of offered upsells.

87. The method of claim 77, wherein the upsell comprises a game entry.

88. The method of claim 87, further comprising:

maintaining a game database;

generating a unique identifier;

storing the unique identifier in the game database; and

5 storing the round-up amount in the game database.

89. The method of claim 77, further comprising:

if the selection signal indicates selection of the identified upsell, storing signals indicative of the identified

upsell in a customer record, thereby associating the identified
5 upsell with a customer.

90. The method of claim 89, further comprising:

storing signals indicative of a first customer identifier
for identifying a first customer who donates the identified
upsell; and

5 storing signals indicative of a second customer identifier
for identifying a second customer who receives the donated
upsell.

91. The method of claim 89, further comprising:

storing signals indicative of a first customer identifier
for identifying a first customer who donates the identified
upsell;

5 storing signals indicative of a plurality of customer
identifiers for identifying a plurality of customers; and

selecting at least one of the plurality of customer
identifiers, thereby selecting at least one customer who
receives the donated upsell.

10

92. The method of claim 77, further comprising:

storing a preferred-upsell signal indicative of an upsell
for each of a plurality of customers.

93. The method of claim 92, wherein the step of generating the selection signal comprises accessing the stored preferred-upsell signals, and generating the selection signal in dependence thereupon.

5

94. The method of claim 76, wherein the step of identifying the upsell comprises identifying a plurality of upsells in the database which correspond to the compared upsell price, and wherein the step of outputting comprises outputting signals
5 indicative of at least one of the plurality of identified upsells.

95. The method of claim 94, further comprising:

generating a selection signal for indicating selection between at least one of the plurality of identified upsells and change.

5

96. The method of claim 94, further comprising:

sorting the plurality of identified upsells, thereby arranging a first upsell to be ordered before a second upsell.

97. The method of claim 96, wherein the step of outputting comprises outputting signals indicative of the first upsell.

98. The method of claim 97, further comprising:

generating a selection signal for indicating selection
between the identified upsell and change; and

outputting signals indicative of the second upsell if the
5 selection signal does not indicate selection of the first
upsell.

99. The method of claim 96, wherein the step of sorting
comprises sorting the plurality of identified upsells according
to a cost of each identified upsell.

100. The method of claim 76, further comprising:

generating a purchase condition,

and wherein the step of maintaining a database comprises:

maintaining a database of at least one upsell price and a
5 corresponding upsell and at least one corresponding upsell
condition,

and wherein the step of identifying comprises:

identifying at least one upsell in the database which
corresponds to the compared upsell price and the purchase
10 condition.

101. The method of claim 76, wherein the step of generating a rounded price comprises generating a rounded price in dependence on a whole number which is greater than the purchase price.

102. The method of claim 101, wherein the step of generating a rounded price comprises generating a rounded price in dependence on the smallest whole number which is greater than the purchase price.

5

103. The method of claim 76, wherein the step of generating a rounded price comprises generating a rounded price in dependence on a multiple of $\frac{1}{4}$ which is greater than the purchase price.

104. An apparatus for determining an upsell of a purchase, comprising:

a storage device; and

a processor connected to the storage device,

5 the storage device storing

a required payment amount,

a database of at least one upsell price and a corresponding upsell, and

a program for controlling the processor; and

10 the processor operative with the program to

generate a purchase price of the purchase,

set the required payment amount to be equal to the purchase price,

generate a rounded price,

15 calculate a round-up amount, the round-up amount being a difference between the purchase price and the rounded price,

compare the calculated round-up amount with at least one of the upsell prices in the database, and

if the calculated round-up amount corresponds to a
20 compared upsell price,

identify at least one upsell in the database which corresponds to the compared upsell price, and

output signals indicative of the identified upsell.

25

105. The apparatus of claim 104, wherein the processor is further operative with the program to generate a selection signal for indicating selection between the identified upsell and change.

5

106. The apparatus of claim 105, wherein the database includes a plurality of upsell prices and corresponding upsells, and wherein the processor is further operative with the program to identify a second upsell in the database which corresponds to

5 the compared upsell if the selection signal indicates selection of change.

107. The apparatus of claim 104, wherein the processor is further operative with the program to:

generate a selection signal for indicating selection between the identified upsell, change and a second upsell, and

5 if the selection signal indicates selection of the second upsell, determine a second upsell price corresponding to the second upsell.

108. The apparatus of claim 105, further comprising:

a printer connected to the processor for printing a voucher.

109. The apparatus of claim 108, wherein the processor is further operative with the program to drive the printer to print an identifier on the voucher.

110. The apparatus of claim 108, wherein the storage device further stores an identifier database; and wherein the processor is further operative with the program to:

generate a unique identifier;

5 store the unique identifier in the identifier database; and

drive the printer to print the unique identifier on the voucher.

111. The apparatus of claim 108, wherein the processor is further operative with the program to:

generate a date identifier in dependence on a date of the purchase; and

5 drive the printer to print the date identifier on the voucher.

112. The apparatus of claim 105, wherein the storage device further stores a database of offered upsells; and wherein the processor is further operative with the program to:

5 store the round-up amount in the database of offered upsells;

store the identified upsell in the database of offered upsells; and

10 store the selection signal in the database of offered upsells.

113. The apparatus of claim 112, wherein the processor is further operative with the program to store a date of the purchase in the database of offered upsells.

114. The apparatus of claim 105, wherein the upsell comprises a game entry.

115. The apparatus of claim 114, wherein the storage device further stores a game database, and wherein the processor is further operative with the program to:

generate a unique identifier;

5 store the unique identifier in the game database; and
store the round-up amount in the game database.

116. The apparatus of claim 105, wherein the storage device further stores a customer record, and wherein the processor is further operative with the program to:

if the selection signal indicates selection of the
5 identified upsell, store signals indicative of the identified upsell in the customer record, thereby associating the identified upsell with a customer.

117. The apparatus of claim 116, wherein the storage device further stores:

signals indicative of a first customer identifier for
identifying a first customer who donates the identified upsell;
5 and

signals indicative of a second customer identifier for identifying a second customer who receives the donated upsell.

118. The apparatus of claim 116, wherein the storage device further stores:

signals indicative of a first customer identifier for identifying a first customer who donates the identified upsell;

5 and

signals indicative of a plurality of customer identifiers for identifying a plurality of customers;

and wherein the processor is further operative with the program to select at least one of the plurality of customer
10 identifiers, thereby selecting at least one customer who receives the donated upsell.

119. The apparatus of claim 105, wherein the storage device further stores a preferred-upsell signal indicative of an upsell for each of a plurality of customers.

120. The apparatus of claim 119, wherein the processor is further operative with the program to access the stored preferred-upsell signals, and generate the selection signal in dependence thereupon.

5

121. The apparatus of claim 104, wherein the processor is further operative with the program to identify a plurality of upsells in the database which correspond to the compared upsell price.

5

122. The apparatus of claim 121, wherein the processor is further operative with the program to:

generate a selection signal for indicating selection between at least one of the plurality of identified upsells and change.

5

123. The apparatus of claim 121, wherein the processor is further operative with the program to:

sort the plurality of identified upsells, thereby arranging a first upsell to be ordered before a second upsell.

5

124. The apparatus of claim 123, wherein the processor is further operative with the program to sort the plurality of identified upsells according to a cost of each identified upsell.

5

125. The apparatus of claim 104, wherein the storage device further stores:

a database of at least one upsell price and a corresponding upsell and at least one corresponding upsell condition;
5 and wherein the processor is further operative with the program to
generate a purchase condition, and
identify at least one upsell in the database which
corresponds to the compared upsell price and the purchase
10 condition.

126. The apparatus of claim 104, wherein the processor is
further operative with the program to generate a rounded price
in dependence on a whole number which is greater than the
purchase price.

5

127. The apparatus of claim 126, wherein the processor is
further operative with the program to generate a rounded price
in dependence on the smallest whole number which is greater than
the purchase price.

5

128. The apparatus of claim 104, wherein the processor is
further operative with the program to generate a rounded price
in dependence on a multiple of $\frac{1}{4}$ which is greater than the
purchase price.

5

129. A method for determining a second product in dependence on a purchase, the purchase including a first product, the terminal storing a required payment amount, comprising:

- maintaining a database of at least one upsell price, a
- 5 corresponding item purchased and a corresponding second product;
- generating a purchase price of the purchase;
- setting the required payment amount to be equal to the purchase price;
- generating a rounded price;
- 10 calculating a round-up amount, the round-up amount being a difference between the purchase price and the rounded price;
- comparing the calculated round-up amount with at least one of the upsell prices in the database; and
- if the calculated round-up amount corresponds to a compared
- 15 upsell price,
- identifying the item purchased and second product which corresponds to the compared upsell price in the database, and
- if the first product corresponds to the identified
- 20 item purchased, outputting a signal indicative of the second product.

130. The method of claim 129, further comprising:

generating a selection signal for indicating selection between the second product and the first product; and

5 setting the required payment amount to be equal to the rounded price if the selection signal indicates selection of the second product.

131. An apparatus for determining a second product in dependence on a purchase, the purchase including a first product, comprising:

5 a storage device; and
 a processor connected to the storage device,
 the storage device storing
 a required payment amount,
 a database of at least one upsell price and a
corresponding upsell, and
10 a program for controlling the processor; and
 the processor operative with the program to
 generate a purchase price of the purchase,
 set the required payment amount to be equal to the
purchase price,
15 generate a rounded price,
 calculate a round-up amount, the round-up amount being
a difference between the purchase price and the rounded price,

compare the calculated round-up amount with at least one of the upsell prices in the database, and

20 if the calculated round-up amount corresponds to a compared upsell price,

 identify the item purchased and second product which corresponds to the compared upsell price in the database, and

25 if the first product corresponds to the identified item purchased, outputting a signal indicative of the second product.

132. The apparatus of claim 131, wherein the processor is further operative with the program to:

 generate a selection signal for indicating selection between the second product and the first product, and

5 set the required payment amount to be equal to the rounded price if the selection signal indicates selection of the second product.

133. A method for determining a second product in dependence on a purchase, the purchase including a first product, the terminal storing a required payment amount, comprising:

 maintaining a database of at least one upsell price, a
5 corresponding item purchased and a corresponding second product;

generating a purchase price of the purchase;
setting the required payment amount to be equal to the
purchase price;
generating a rounded price;
10 calculating a round-up amount, the round-up amount being a
difference between the purchase price and the rounded price;
comparing the calculated round-up amount with at least one
of the upsell prices in the database; and
if the calculated round-up amount corresponds to a compared
15 upsell price,
identifying the item purchased and second product
which corresponds to the compared upsell price in the database,
and
if the first product corresponds to the identified
20 item purchased, outputting a signal indicative of the second
product.

134. The method of claim 133, further comprising:

generating a selection signal for indicating selection
between the second product and change; and
setting the required payment amount to be equal to the
5 rounded price if the selection signal indicates selection of the
second product.

135. An apparatus for determining a second product in dependence on a purchase, the purchase including a first product, comprising:

a storage device; and

5 a processor connected to the storage device,
the storage device storing

a required payment amount,

a database of at least one upsell price and a
corresponding upsell, and

10 a program for controlling the processor; and

the processor operative with the program to

generate a purchase price of the purchase,

set the required payment amount to be equal to the
purchase price,

15 generate a rounded price;

calculate a round-up amount, the round-up amount being
a difference between the purchase price and the rounded price,

compare the calculated round-up amount with at least
one of the upsell prices in the database, and

20 if the calculated round-up amount corresponds to a
compared upsell price,

identify the item purchased and second product
which corresponds to the compared upsell price in the database,
and

25 if the first product corresponds to the
identified item purchased, outputting a signal indicative of the
second product.

136. The apparatus of claim 135, wherein the processor is
further operative with the program to:

generate a selection signal for indicating selection
between the second product and change, and

5 set the required payment amount to be equal to the rounded
price if the selection signal indicates selection of the second
product.

137. A method for offering an upsell of a purchase at a point-
of-sale terminal, comprising:

generating a purchase price of the purchase;

setting a required payment amount to be equal to the

5 purchase price;

generating a rounded price;

calculating a round-up amount, the round-up amount being a
difference between the purchase price and the rounded price;

generating a selection signal for indicating selection

10 between the upsell and change; and

setting the required payment amount to be equal to the rounded price if the selection signal indicates selection of the upsell.

138. The method of claim 137, further comprising:

providing a voucher if the selection signal indicates selection of the upsell.

139. The method of claim 138, further comprising:

printing an identifier on the voucher.

140. The method of claim 138, further comprising:

maintaining an identifier database;

generating a unique identifier;

storing the unique identifier in the identifier database;

5 and

printing the unique identifier on the voucher.

141. The method of claim 138, further comprising:

generating a date identifier in dependence on a date of the purchase; and

printing the date identifier on the voucher.

5

142. The method of claim 137, further comprising:

maintaining a database of offered upsells;

storing the round-up amount in the database of offered upsells;

5 storing the identified upsell in the database of offered upsells; and

storing the selection signal in the database of offered upsells.

143. The method of claim 142, further comprising:

storing a date of the purchase in the database of offered upsells.

144. The method of claim 137, wherein the upsell comprises a game entry.

145. The method of claim 144, further comprising:

maintaining a game database;

generating a unique identifier;

storing the unique identifier in the game database; and

5 storing the round-up amount in the game database.

146. The method of claim 137, further comprising:

if the selection signal indicates selection of the identified upsell, storing signals indicative of the identified

upsell in a customer record, thereby associating the identified
5 upsell with a customer.

147. The method of claim 146, further comprising:

storing signals indicative of a first customer identifier
for identifying a first customer who donates the identified
upsell; and

5 storing signals indicative of a second customer identifier
for identifying a second customer who receives the donated
upsell.

148. The method of claim 146, further comprising:

storing signals indicative of a first customer identifier
for identifying a first customer who donates the identified
upsell;

5 storing signals indicative of a plurality of customer
identifiers for identifying a plurality of customers; and

selecting at least one of the plurality of customer
identifiers, thereby selecting at least one customer who
receives the donated upsell.

10

149. The method of claim 137, further comprising:

storing a preferred-upsell signal indicative of an upsell
for each of a plurality of customers.

150. The method of claim 149, wherein the step of generating the selection signal comprises accessing the stored preferred-upsell signals, and generating the selection signal in dependence thereupon.

5

151. The method of claim 137, wherein the step of generating a rounded price comprises generating a rounded price in dependence on a whole number which is greater than the purchase price.

152. The method of claim 151, wherein the step of generating a rounded price comprises generating a rounded price in dependence on the smallest whole number which is greater than the purchase price.

5

153. The method of claim 137, wherein the step of generating a rounded price comprises generating a rounded price in dependence on a multiple of $\frac{1}{4}$ which is greater than the purchase price.

154. An apparatus for offering an upsell of a purchase, comprising:

a storage device; and

a processor connected to the storage device,

5

the storage device storing

a required payment amount, and
a program for controlling the processor; and
the processor operative with the program to
generate a purchase price of the purchase,
10 set a required payment amount to be equal to the
purchase price,
generate a rounded price,
calculate a round-up amount, the round-up amount being
a difference between the purchase price and the rounded price,
15 generate a selection signal for indicating selection
between the upsell and change, and
set the required payment amount to be equal to the
rounded price if the selection signal indicates selection of the
upsell.

20

155. The apparatus of claim 154, wherein the processor is
further operative with the program to generate a selection
signal for indicating selection between the identified upsell
and change.

5

156. The apparatus of claim 155, further comprising:
a printer connected to the processor for printing a
voucher.

157. The apparatus of claim 156, wherein the processor is further operative with the program to drive the printer to print an identifier on the voucher.

158. The apparatus of claim 156, wherein the storage device further stores an identifier database; and wherein the processor is further operative with the program to:

generate a unique identifier;

5 store the unique identifier in the identifier database; and
drive the printer to print the unique identifier on the voucher.

159. The apparatus of claim 155, wherein the processor is further operative with the program to:

generate a date identifier in dependence on a date of the purchase; and

5 drive the printer to print the date identifier on the voucher.

160. The apparatus of claim 155, wherein the storage device further stores a database of offered upsells; and wherein the processor is further operative with the program to:

5 store the round-up amount in the database of offered
upsells;
 store the identified upsell in the database of offered
upsells; and
 store the selection signal in the database of offered
10 upsells.

161. The apparatus of claim 160, wherein the processor is
further operative with the program to store a date of the
purchase in the database of offered upsells.

162. The apparatus of claim 155, wherein the upsell comprises a
game entry.

163. The apparatus of claim 162, wherein the storage device
further stores a game database, and
wherein the processor is further operative with the program to:

 generate a unique identifier;
5 store the unique identifier in the game database; and
 store the round-up amount in the game database.

164. The apparatus of claim 155, wherein the storage device
further stores a customer record, and wherein the processor is
further operative with the program to:

if the selection signal indicates selection of the
5 identified upsell, store signals indicative of the identified
upsell in the customer record, thereby associating the
identified upsell with a customer.

165. The apparatus of claim 164, wherein the storage device
further stores:

signals indicative of a first customer identifier for
identifying a first customer who donates the identified upsell;
5 and

signals indicative of a second customer identifier for
identifying a second customer who receives the donated upsell.

166. The apparatus of claim 164, wherein the storage device
further stores:

signals indicative of a first customer identifier for
identifying a first customer who donates the identified upsell;
5 and

signals indicative of a plurality of customer identifiers
for identifying a plurality of customers;

and wherein the processor is further operative with the
program to select at least one of the plurality of customer
10 identifiers, thereby selecting at least one customer who
receives the donated upsell.

167. The apparatus of claim 155, wherein the storage device further stores a preferred-upsell signal indicative of an upsell for each of a plurality of customers.

168. The apparatus of claim 167, wherein the processor is further operative with the program to access the stored preferred-upsell signals, and generate the selection signal in dependence thereupon.

5

169. The apparatus of claim 154, wherein the processor is further operative with the program to generate a rounded price in dependence on a whole number which is greater than the purchase price.

5

170. The apparatus of claim 169, wherein the processor is further operative with the program to generate a rounded price in dependence on the smallest whole number which is greater than the purchase price.

5

171. The apparatus of claim 154, wherein the processor is further operative with the program to generate a rounded price in dependence on a multiple of $\frac{1}{4}$ which is greater than the purchase price.

5

172. A method for determining an upsell of a purchase at a point-of-sale terminal, comprising:

generating a purchase price of the purchase;

generating a rounded price;

5 calculating a round-up amount, the round-up amount being a difference between the purchase price and the rounded price;

generating a selection signal for indicating selection between the upsell and change; and

printing indicia indicative of the round-up amount if the
10 selection signal indicates selection of the upsell.

173. An apparatus for determining an upsell of a purchase, comprising:

a storage device;

a processor connected to the storage device; and

5 a printer connected to the processor,

the storage device storing

a program for controlling the processor;

the processor operative with the program to

generate a purchase price of the purchase,

10 generate a rounded price,

calculate a round-up amount, the round-up amount being a difference between the purchase price and the rounded price, and

generate a selection signal for indicating selection
15 between the upsell and change; and
the printer for printing indicia indicative of the round-up amount if the selection signal indicates selection of the upsell.

174. A method for determining an upsell of a purchase at a point-of-sale terminal, the terminal storing a required payment amount, comprising:

generating a purchase price of the purchase;
5 generating a rounded price;
calculating a round-up amount, the round-up amount being a difference between the purchase price and the rounded price;
setting the required payment amount to be equal to the rounded price;
10 providing an upsell in exchange for the round-up amount.

175. A method for determining an upsell of a purchase, comprising:

maintaining a database of at least one upsell price and a corresponding upsell;

5 receiving a purchase price of the purchase;
generating a rounded price;
calculating a round-up amount, the round-up amount being a
difference between the purchase price and the rounded price;
comparing the calculated round-up amount with at least one
10 of the upsell prices in the database; and
if the calculated round-up amount corresponds to a compared
upsell price,
identifying at least one upsell in the database which
corresponds to the compared upsell price, and
15 outputting signals indicative of the identified
upsell.

176. The method of claim 175, further comprising:

generating a selection signal for indicating selection
between the identified upsell and change; and

transmitting the rounded price if the selection signal
5 indicates selection of the identified upsell.

177. The method of claim 176, wherein the step transmitting the
rounded price comprises transmitting the rounded price to a
register if the selection signal indicates selection of the
identified upsell.

5

178. The method of claim 175, wherein the step of receiving the purchase price comprises receiving the purchase price of the purchase from a register.

179. An apparatus for determining an upsell of a purchase, comprising:

a storage device; and

a processor connected to the storage device;

5 the storage device storing

a database of at least one upsell price and a corresponding upsell, and

a program for controlling the processor;

the processor operative with the program to

10 receive a purchase price of the purchase,

generate a rounded price,

calculate a round-up amount, the round-up amount being a difference between the purchase price and the rounded price,

15 comparing the calculated round-up amount with at least one of the upsell prices in the database, and

if the calculated round-up amount corresponds to a compared upsell price,

identify at least one upsell in the database which corresponds to the compared upsell price, and

20 output signals indicative of the identified
upsell.

180. The apparatus of claim 179, wherein the processor is
further operative with the program to

generate a selection signal for indicating selection
between the identified upsell and change, and

5 transmit the rounded price if the selection signal
indicates selection of the identified upsell.

181. The apparatus of claim 180, wherein the processor is
further operative with the program to transmit the rounded price
to a register if the selection signal indicates selection of the
identified upsell.

5 182. The apparatus of claim 179, wherein the processor is
further operative with the program to receive the purchase price
of the purchase from a register.

183. A method for determining an upsell of a purchase at a
register storing a required payment amount, the register
communicating with a processing system, comprising:

generating a purchase price of the purchase;

5 setting the required payment amount to be equal to the
purchase price;

transmitting the purchase price to the processing system;
and

if a rounded price is received from the processing system,
10 setting the required payment amount to be equal to the rounded
price.

184. An apparatus for determining an upsell of a purchase, the
apparatus communicating with a processing system, comprising:

a storage device; and

a processor connected to the storage device;

5 the storage device storing

a required payment amount, and

a program for controlling the processor;

the processor operative with the program to

generate a purchase price of the purchase;

10 set the required payment amount to be equal to the
purchase price;

transmit the purchase price to the processing system;

and

if a rounded price is received from the processing system, set
15 the required payment amount to be equal to the rounded price.

ABSTRACT OF THE DISCLOSURE

A POS terminal determines an upsell to offer in exchange for the change due to a customer in connection with a purchase. The point-of-sale terminal preferably maintains a database of at least one upsell price and a corresponding upsell to offer a customer in exchange for the change due to him. If the customer accepts the upsell, the cashier so indicates by pressing a selection button on the POS terminal. The required payment amount for the customer to pay is then set equal to the rounded price, rather than the purchase price. Thus, the customer receives the upsell in exchange for the coins due to him, and the coins need not be exchanged between the customer and the POS terminal.

COMBINED DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship is as stated below next to my name(s),

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

METHOD AND SYSTEM FOR PROCESSING SUPPLEMENTARY PRODUCT SALES AT A POINT-OF-SALE TERMINAL

the specification of which (*check one*)



is attached hereto; or



was filed on _____ as application serial no. _____ and was amended on _____ (if applicable); or



was described and claimed in international application no. _____ filed on _____ and as amended on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above, and that it contains a full, clear, concise and exact description of the subject matter for which a patent is sought.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, § 1.56(a).

Prior Application(s)

☐ (Check if applicable) I hereby claim foreign priority benefits under Title 35, United States Code § 119, by checking the box(es) below, any foreign application(s) for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)

			Priority Claimed?
			<input type="checkbox"/> yes <input type="checkbox"/> no
_____ (Number)	_____ (Country)	_____ (Day/month/year filed)	
_____ (Number)	_____ (Country)	_____ (Day/month/year filed)	<input type="checkbox"/> yes <input type="checkbox"/> no

☒ (Check if applicable) I hereby claim the benefit under Title 35, United States Code § 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code § 112, I acknowledge the duty to disclose material information as defined in the Title 37, Code of Federal Regulations § 1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of the application:

Prior U.S. Application(s)

<u>08/822,709</u>	<u>21 March 1997</u>	<u>Pending</u>
(Application Number)	(Day/month/year filed)	(Status – Issued, pending, abandoned)
_____ (Application Number)	_____ (Day/month/year filed)	_____ (Status – Issued, pending, abandoned)

☒ (Check if applicable) In this continuation-in-part application, insofar as the subject matter of any of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code § 112, I acknowledge the duty to disclose material information as defined in the Title 37, Code of Federal Regulations § 1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of the application:

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge and the like so made are punishable by fine or imprisonment, or both under § 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

I hereby appoint Jeffrey L. Brandt - Reg. No. 31,490, Robert L. Lech - Reg. No. 37,169 and Dean Alderucci - Reg. No. 40,484 of Walker Digital Corporation, whose address is Five High Ridge Park, Stamford, Connecticut 06905-1326 as my attorneys with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.

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Wherefore I pray that Letters Patent be granted to me for the invention or discovery described and claimed in the foregoing specification and claims, and I hereby subscribe my name to the foregoing specification and claims, declaration, power of attorney, and this petition.

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Citizenship: U.S.A.
Inventor's signature _____

Date August 25, 1997

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Inventor's signature _____

Date August 25, 1997

Full name of third inventor: Andrew S. VAN LUCHENE
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Inventor's signature _____

Date August 25, 1997

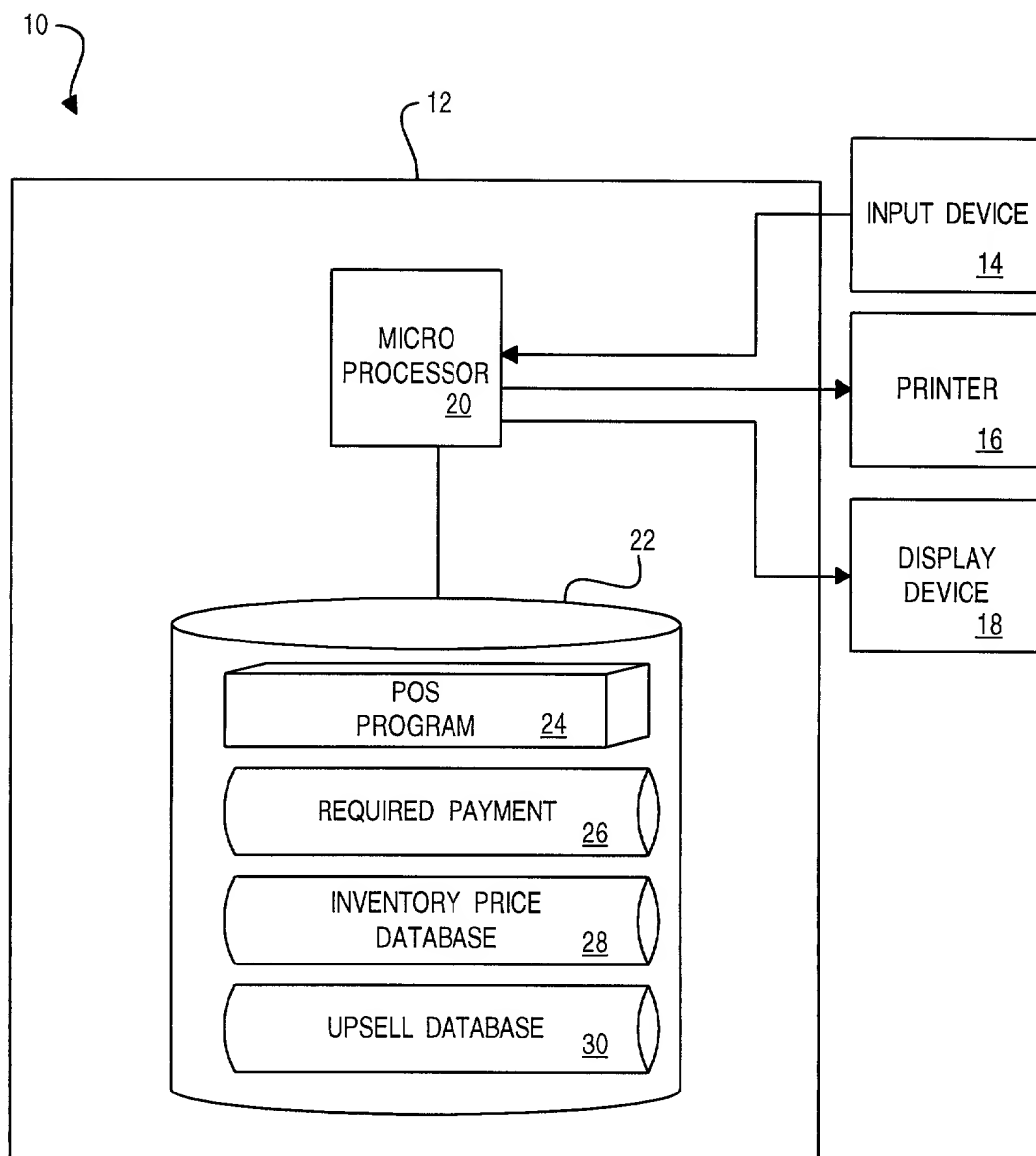


FIG. 1a

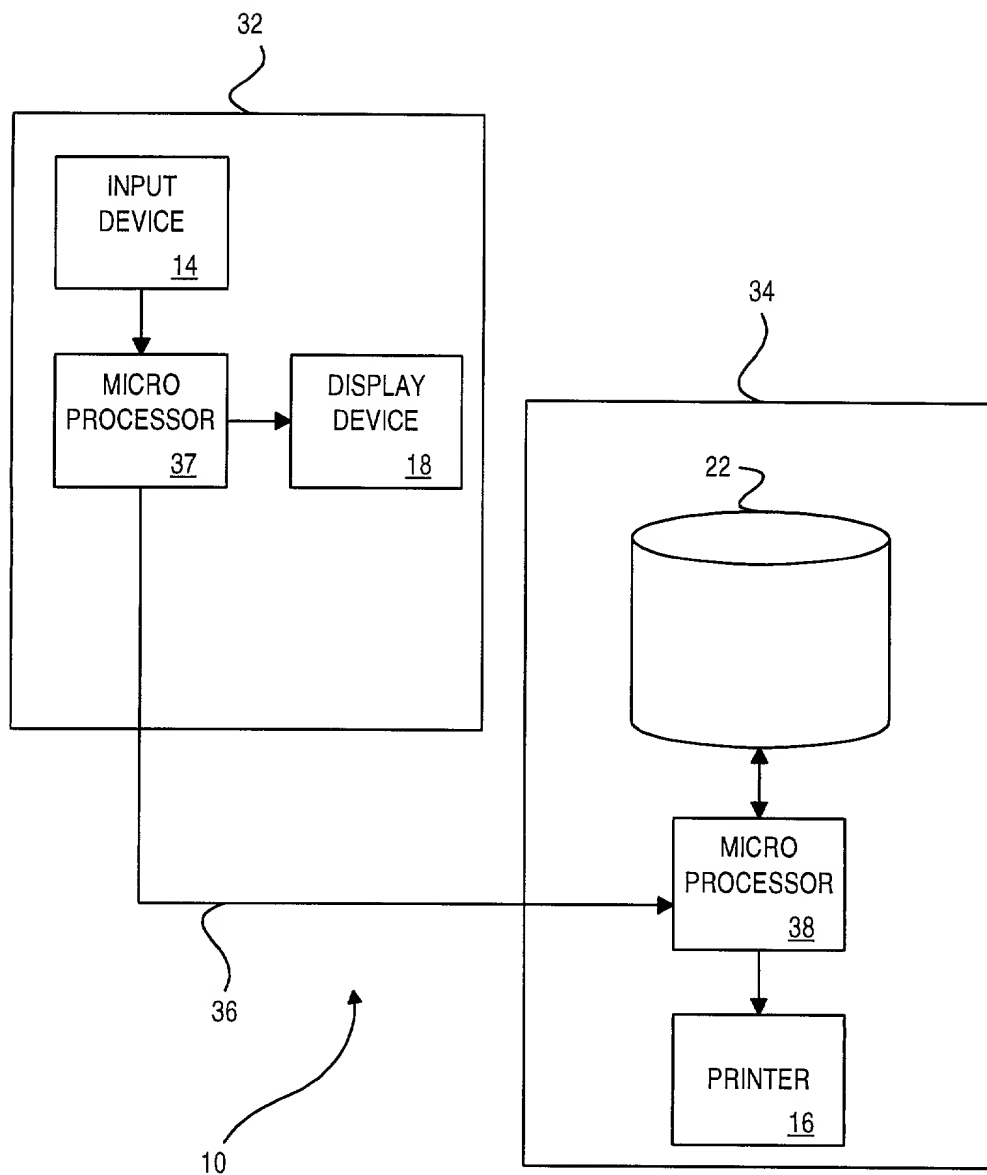


FIG. 1b

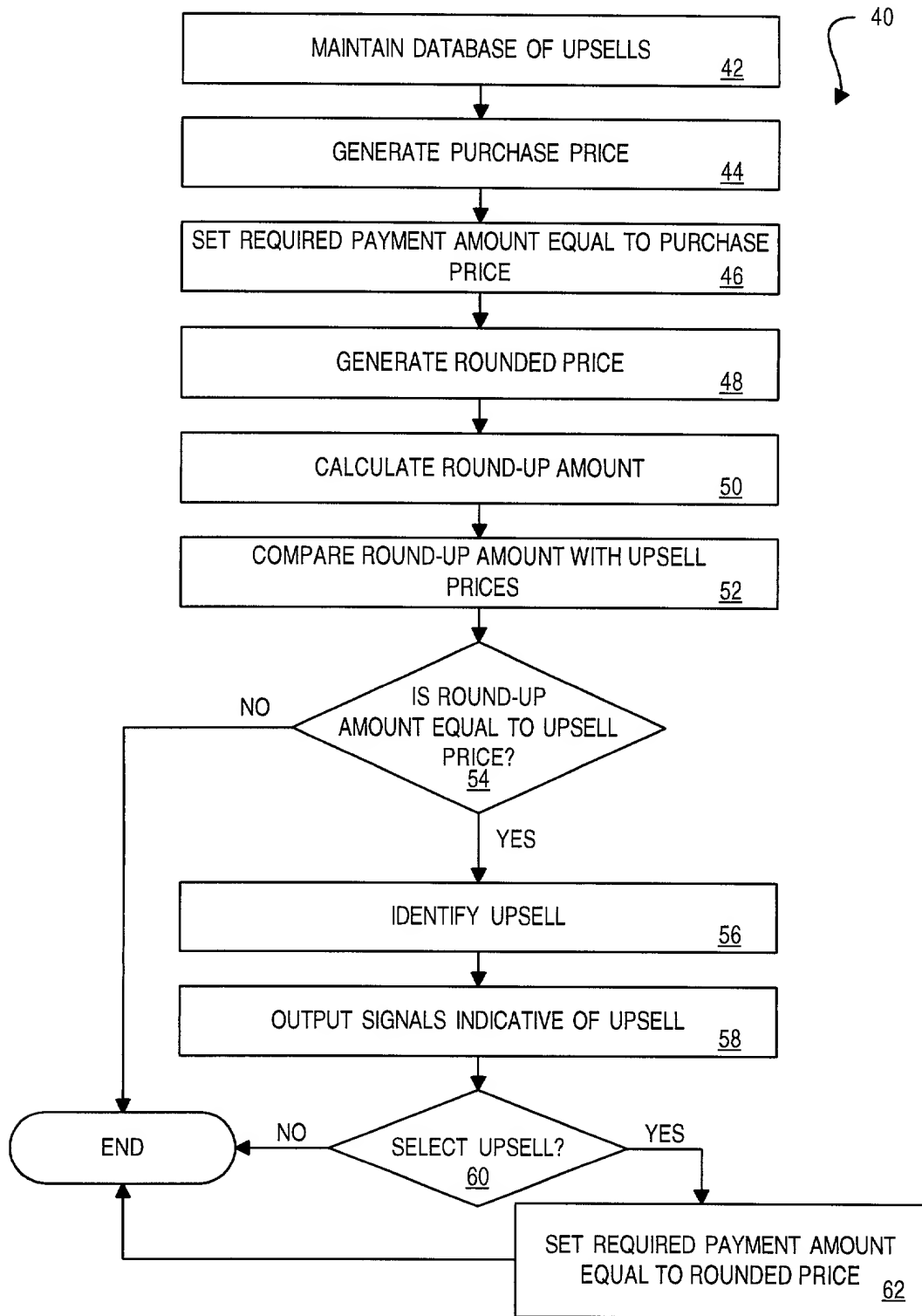


FIG. 2

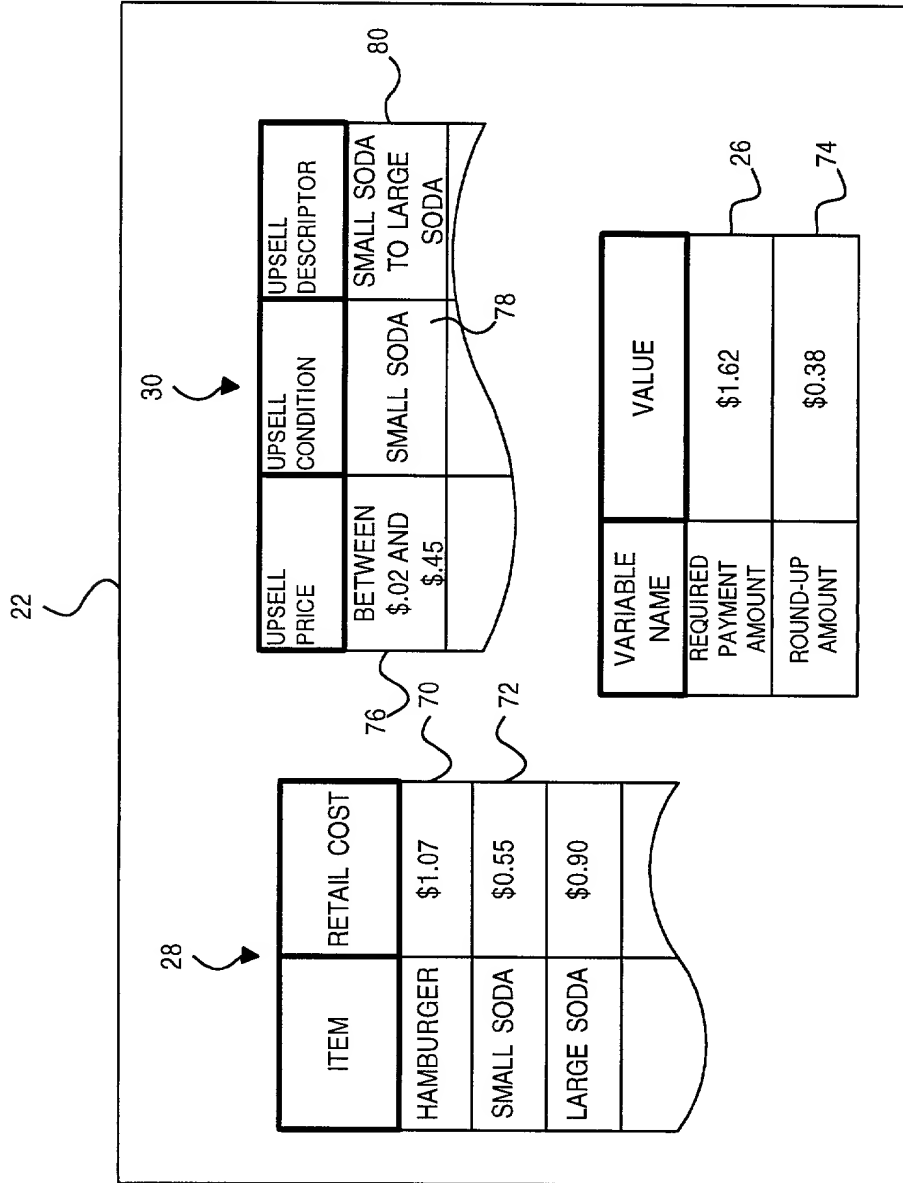


FIG. 3

90



UPSELL CODE(S) 104	UPSELL PRICE 92	ITEMS PURCHASED 96	CUSTOMER ID REQUIRED? 98	CUSTOMER PREFERENCES 100	TIME PURCHASED 102	COST 103	UPSELL DESCRIPTOR 94
A	BETWEEN \$.02 AND \$.45	SMALL SODA	NO	NA	NA	\$0.02	SMALL SODA TO LARGE SODA
B	BETWEEN \$.50 AND \$.80	8	YES	NA	NA	\$0.50	X LARGE COLA UPGRADE, DELUXE TACO UPGRADE, FREE TACO COUPON
C	MORE THAN \$.70	NA	NO	NA	NA	\$0.70	FREE TACO COUPON
D	BETWEEN \$.30 AND \$.70	HAMBURGER	NO	NA	NA	\$0.25	PROMOTIONAL CUP
E	BETWEEN \$1.50 AND \$3.50	NA	YES	NA	> 5:00PM	\$1.00	MOVIE TICKET
F	BETWEEN \$.20 AND \$.60	1,5	NO	NA	NA	\$0.20	X LARGE COLA UPGRADE, DELUXE TACO UPGRADE
G	LESS THAN \$.20	2	NO	NA	NA	\$0.00	LARGE COLA UPGRADE
H	BETWEEN \$.05 AND \$.20	5	NO	NA	NA	\$0.05	DELUXE TACO UPGRADE
I	LESS THAN \$.50	3	YES	5, 7, 3	NA	\$0.01	X LARGE COLA UPGRADE, FREE TACO COUPON

FIG. 4

FIG. 5 is a schematic diagram of a system 110, according to one embodiment, for providing a user interface for a user to interact with a system 110. The system 110 includes a user interface 112, a database 114, and a server 116. The user interface 112 is configured to receive input from a user and to display output to the user. The database 114 is configured to store data. The server 116 is configured to process the input and to retrieve data from the database 114. The system 110 is configured to provide a user interface for a user to interact with a system 110.

110

CUSTOMER ID <u>112</u>	CUSTOMER NAME <u>114</u>	ADDRESS <u>116</u>	PHONE <u>118</u>	HISTORICAL PREFERENCES <u>110</u>
123456	BILL SMITH	1425 HARD RD. NORWALK, CT 06850	(111)111-1111	BB
123457	JACK GREEN	213 PINK ST. NORWALK, CT 06850	(111)222-2222	NA
123458	ELIOT BROWN	21 CIRCLE DR. NORWALK, CT 06850	(111)333-3333	5,7,3,I

FIG. 5

130

IDENTIFIER 136	PRODUCT 132	PRICE 134	NUMBER IN STOCK 138	EXPIRATION 140
1	HAMBURGER	\$1.07	17	4:00 PM
2	SMALL SODA	\$0.55	NA	NA
3	LARGE SODA	\$0.90	NA	NA
4	X LARGE SODA	\$1.39	NA	NA
5	HARD TACO	\$.69	20	2:00 PM
7	SOFT TACO	\$.69	50	2:00 PM
8	#8 COMBO, HARD TACO, CHICKEN FAJITA, MEDIUM COLA	\$3.49	14	14
9	CINNAMON TREAT	\$0.59	3	2:00 PM
10	DELUXE TACO	\$0.89	0	3:00 PM

FIG. 6

150



<u>158</u> DATE OFFERED	<u>152</u> UPSELL(S) OFFERED	<u>154</u> ROUND-UP AMOUNT	<u>156</u> UPSELL ACCEPTED	<u>162</u> EXPIRATION	<u>164</u> DATE REDEEMED	<u>160</u> CUSTOMER ID
8/12/97	G,H	\$.18	G	NA	NA	NA
8/12/97	B	\$.72	NONE	NA	NA	NA
8/12/97	C,D	\$.62	C	14 DAYS	8/22/97	123456
8/12/97	E	\$2.72	E	NA	NA	123560
8/12/97	I	\$.43	I	14 DAYS	EXPIRED	123458

FIG. 7

180

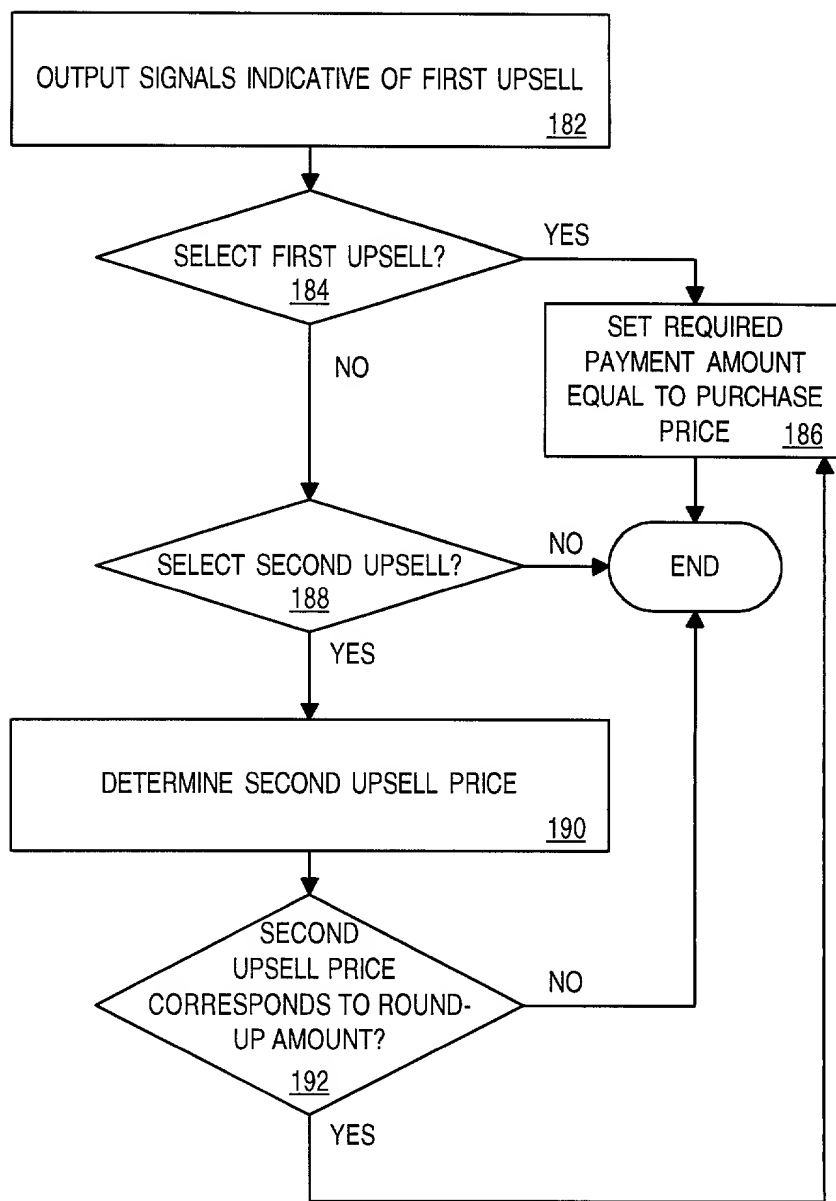


FIG. 8

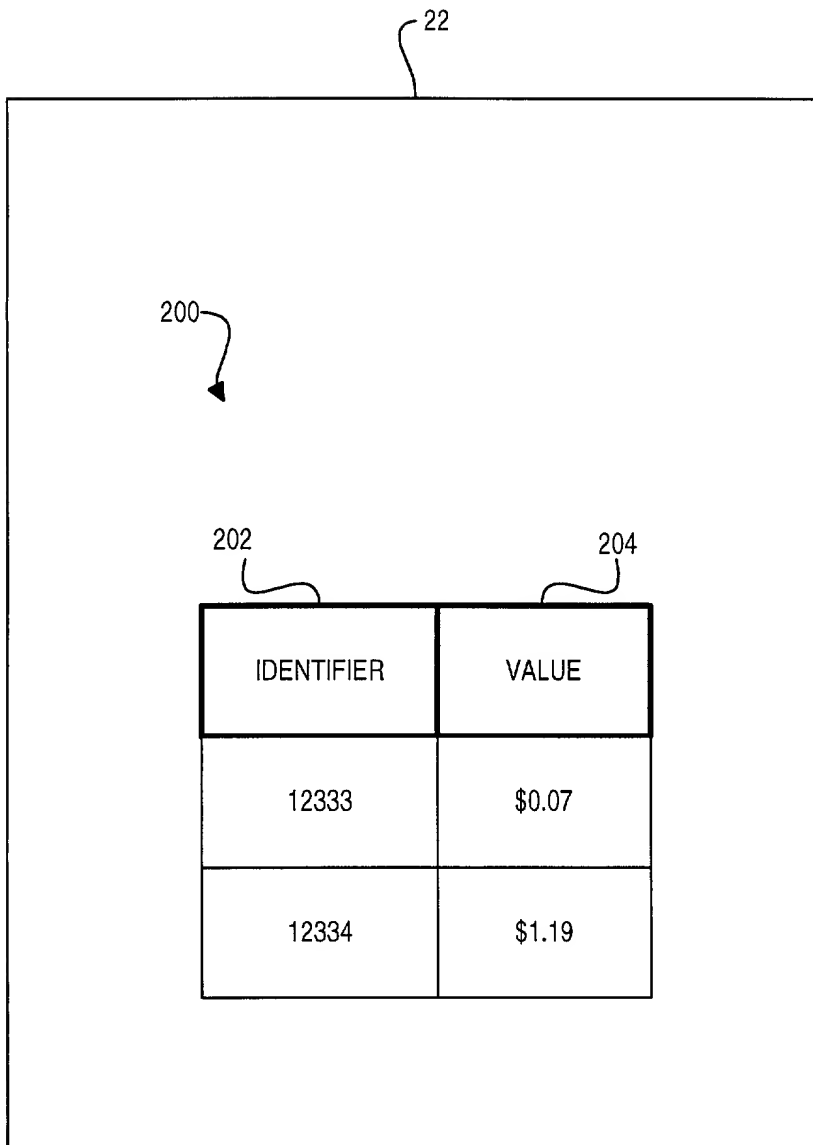


FIG. 9

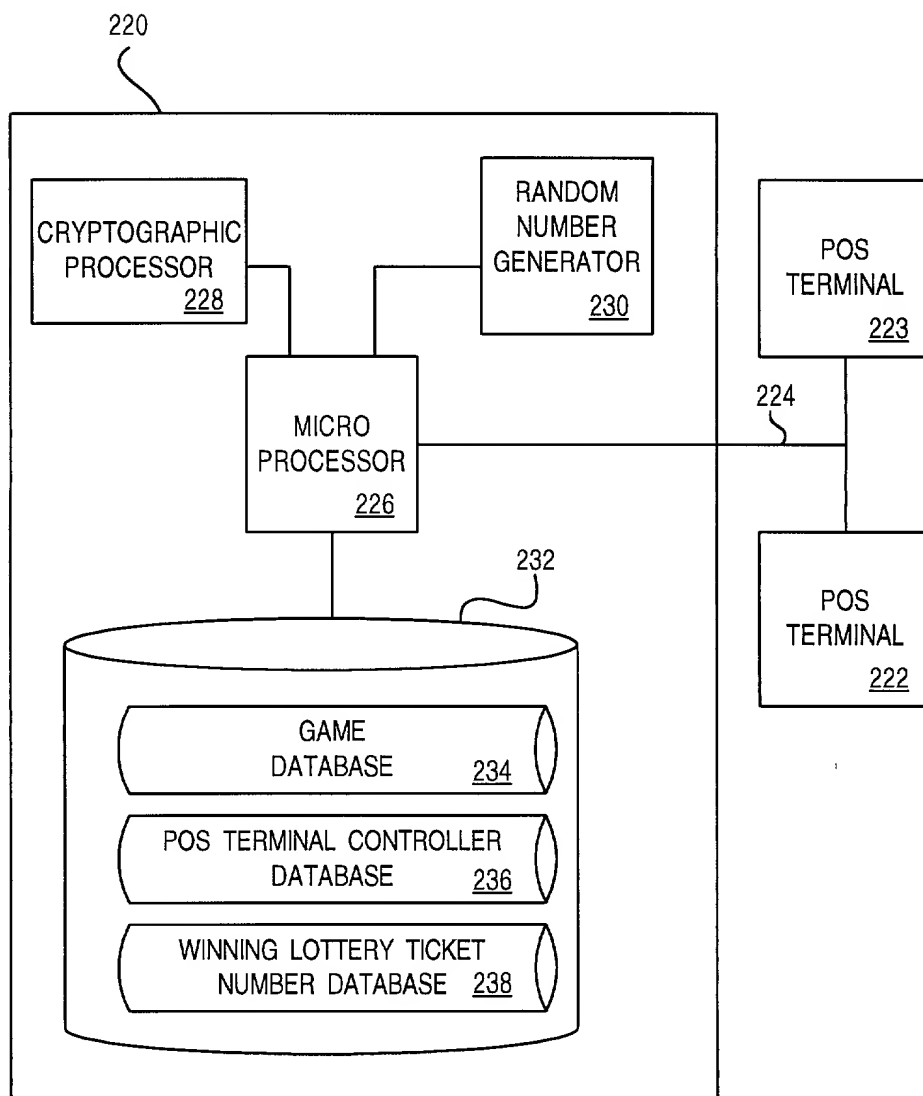


FIG. 10

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278

CUSTOMER ID 262	CUSTOMER NAME 264	ADDRESS 266	PHONE 268	HISTORICAL PREFERENCES 270	LINKED CUSTOMERS 272	UPSELL DUE 274	UPSELL EXPIRATION 275
123456	BILL SMITH	1425 HARD RD. NORWALK, CT 06850	(111)111-1111	BB	123459	-	-
123457	JACK GREEN	213 PINK ST. NORWALK, CT 06850	(111)222-2222	NA	-	CC	1/1/97
123458	ELIOT BROWN	21 CIRCLE DR. NORWALK, CT 06850	(111)333-3333	5,7,3,I	199998,199999	-	-
123459	JILL SMITH	4210 BIG LOOP NORWALK, CT 06850	(111)444-4444	-	-	A	8/3/97

276

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FIG. 11

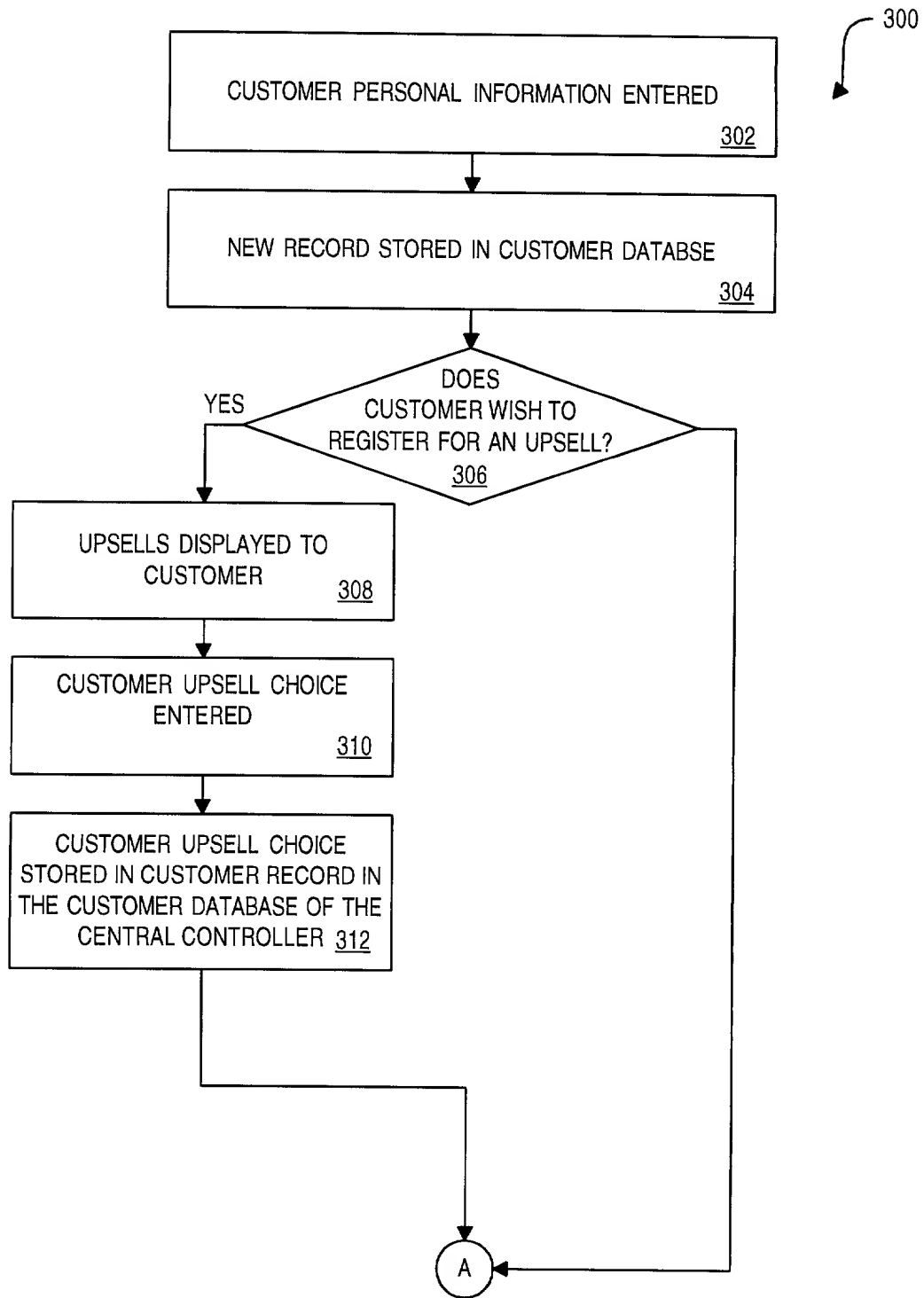


FIG. 12a

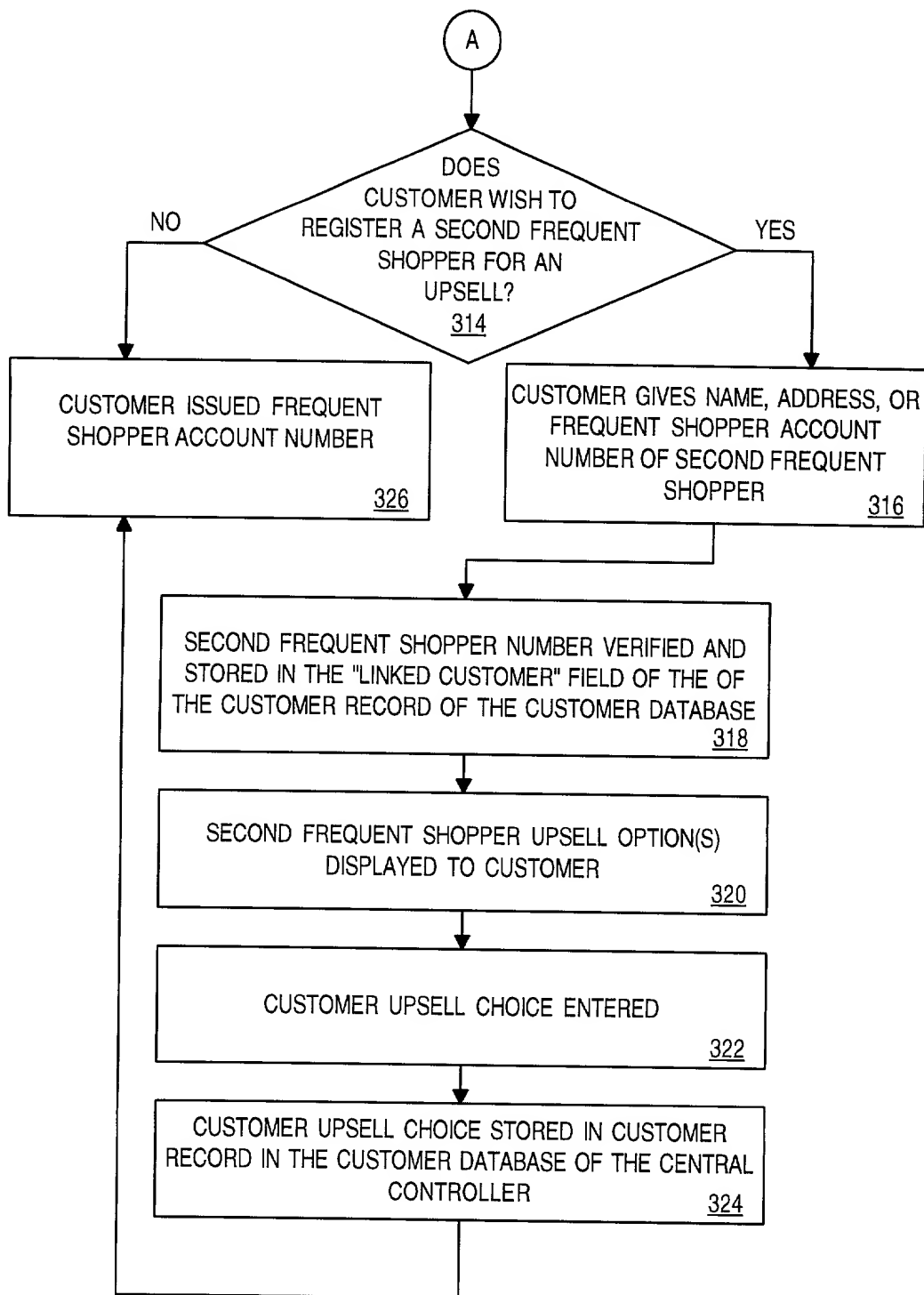


FIG. 12b

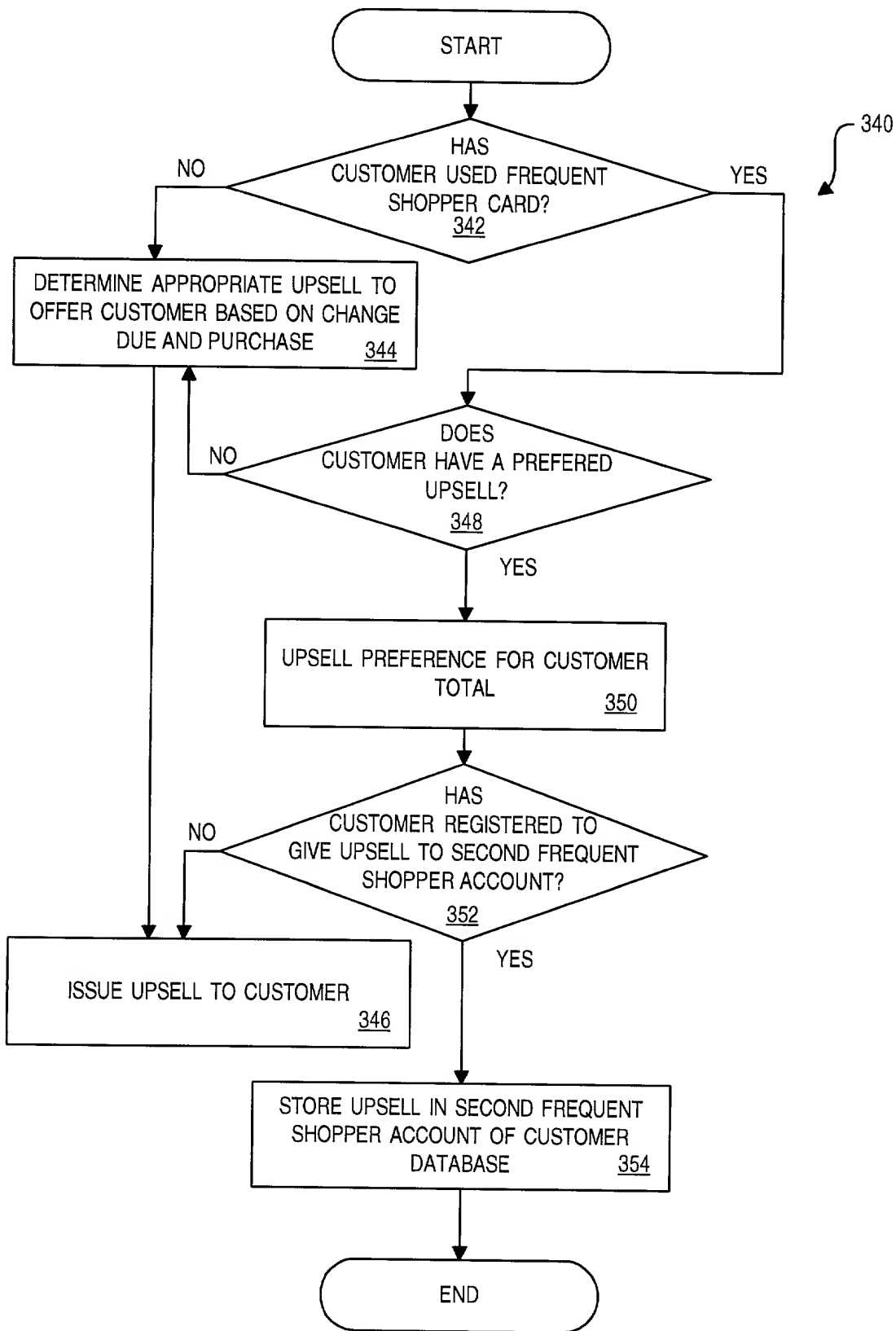


FIG. 13

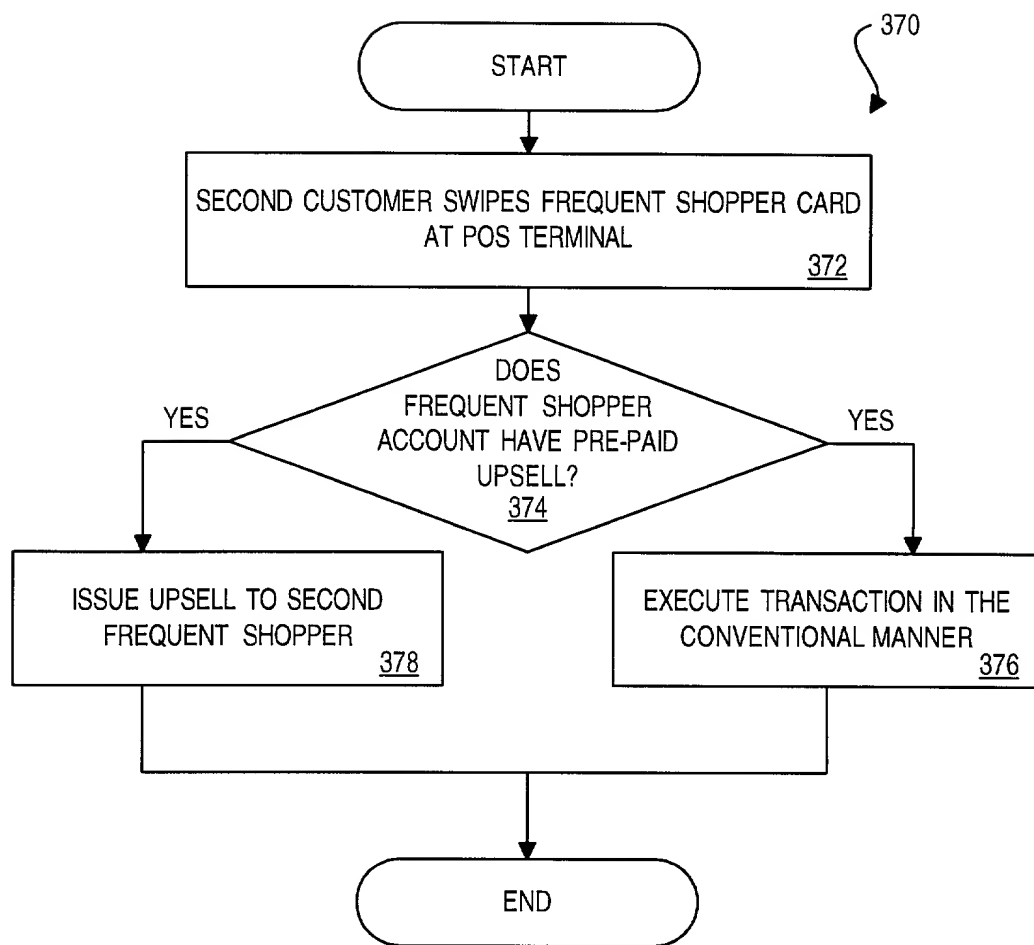


FIG. 14

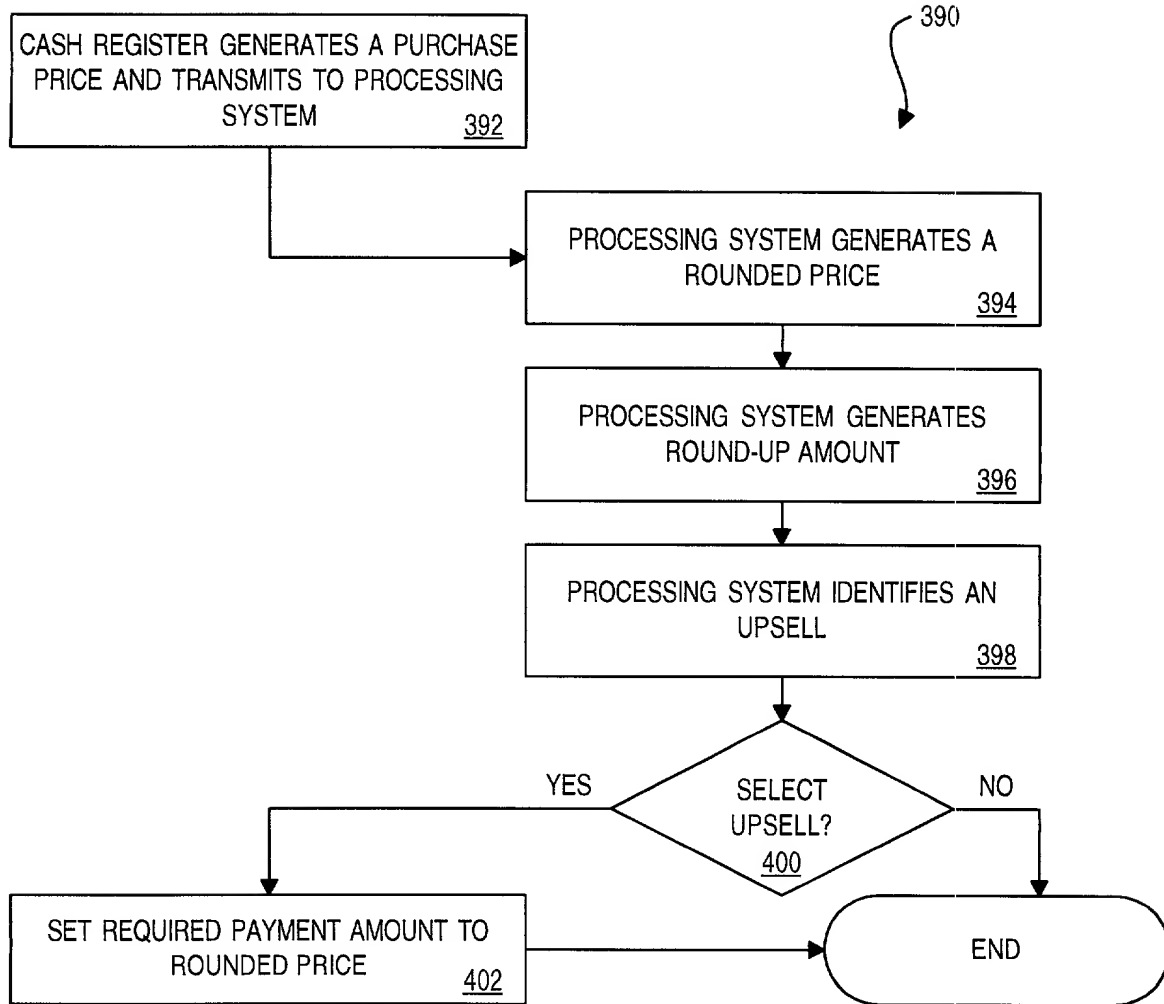


FIG. 15